

CD³²—Europe's hottest gaming machine is now stateside, p.96



Amazing COMPUTING™ *For The Commodore* AMIGA®

Your Original AMIGA® Monthly Resource

Volume 9 No. 2 February 1994
US \$3.95 Canada \$4.95

In This Issue

- Lens Flare in Imagine
- Amiga on Internet
- Desktop Publishing & Forms
- Organizing Files with ProPage
- AGA Chip Set & Amiga Gaming
- WOCA—Toronto
- WOCA—Cologne

Reviews

- Diner Object Set
- Magic Lantern
- TapeWorm-FS
- FinalWriter
- EGS 28/24 Spectrum



AC Exclusive Interview—
Lew Eggebrecht on CD³²
and the future of the Amiga

PLUS

Coming Attractions: New games for the Amiga



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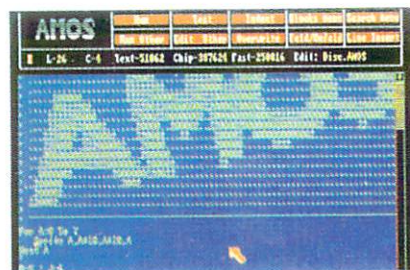
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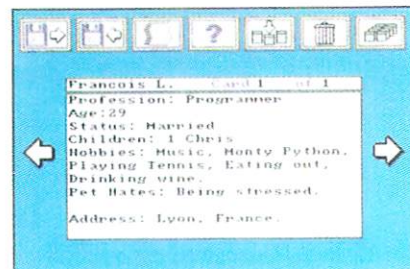
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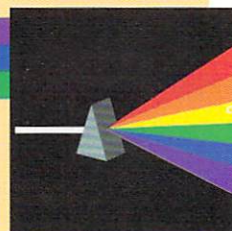


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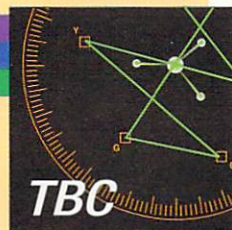
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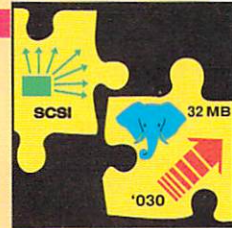
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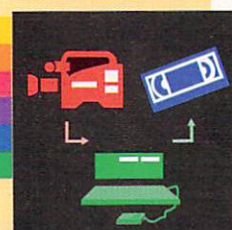
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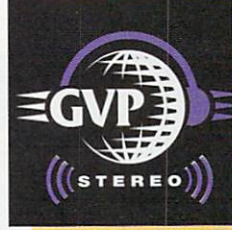
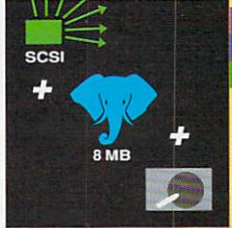
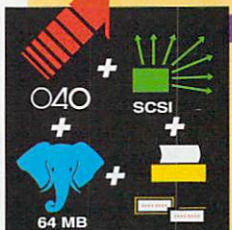
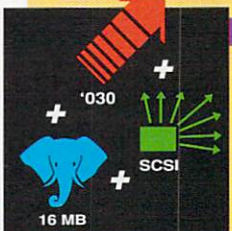
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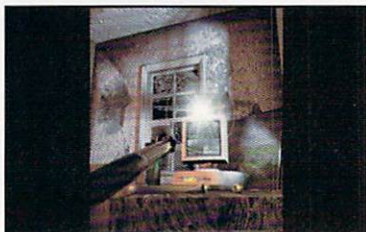
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CONTENTS



Diner Object Set, p. 12



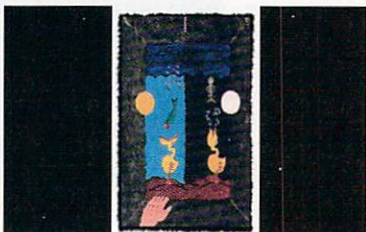
Imagination, p. 37



WOC—Cologne, p. 51



Coming Attractions, p. 74



Digital Image Special F/X, p. 66

In This Issue

29 CanDo

by Randy Finch

This month Finch uses AnimManager, an AmigaDOS program that plays an ANIM file with full double buffering.

37 Putting Some Flare into Your Imagination

by Marc Hoffman

A quick and easy way to create lens flare effects in Imagine.

42 Amiga on Internet

by Henning Vahlenkamp

Vahlenkamp explores the Internet and its services.

46 Desktop Publishing & Forms

by Dan Weiss

An easy way to create custom forms with your favorite DTP program.

51 WOC—Cologne

by Ben Vost

With over 150 companies represented and over 50,000 visitors on Saturday alone, this show was a success.

54 Organize Your Files with Professional Page

by Dan Weiss

By using the power of ARexx, you can print file directories, graphics catalogs, and more.

57 WOCA—Toronto

CD³² and a host of other new products highlight one of the best Toronto shows ever.

74 Coming Attractions

by Henning Vahlenkamp

A sneak peek at new and upcoming games such as *Entity* and *Overdrive*.

81 The AGA Chip Set & Amiga Gaming

by Jeff James

An examination on how the AGA chip set is changing the face of Amiga gaming.

Reviews

12 Diner Object Set

by Douglas J. Nakakihara

This three-disk package comes with all the objects necessary to build a complete 1950's diner.

14 Magic Lantern

by Douglas J. Nakakihara

A new animation compiling program for all Amiga display modes including AGA, Retina, Picasso II, and GfxBase's GDA card in all 8-bit modes.

17 TapeWorm-FS

by Douglas J. Nakakihara

Nakakihara was so taken with the *TapeWorm-FS*, he proclaims that no tape-drive owner should be without it.

20 FinalWriter

by Merrill Callaway

Not only a word processor, *FinalWriter* has many features found exclusively in desktop publishing programs.

23 EGS 28/24 Spectrum

by Marc Hoffman

With its display capabilities, graphics processing power and software, this board is likely to be a big hit, states Hoffman.

Features

40 Online

by Rob Hays

Hays takes a look at two automated terminal programs.

66 Digital Image Special F/X

by William Frawley

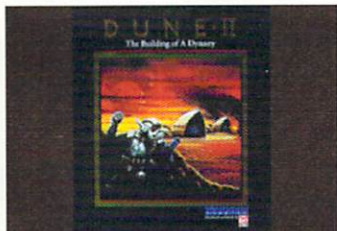
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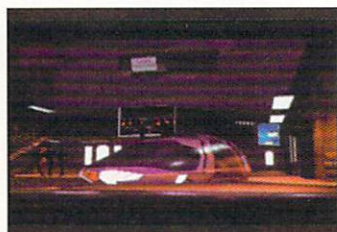
A special interview with Lew Eggebrecht, Commodore's Vice President of Engineering. p. 32



New Products, p. 8



New Products, p. 8



Syndicate, p. 86



Shadowlands, p. 88



Walker, p.89

Columns

8 New Products & Other Neat Stuff

by Elizabeth Harris

This month's New Products includes *Mailing List Manager*, *The Patrician*, *Notator-X*, *Dune II*, *RexxVar 1.0*, *MicroTouch Touch Monitor*, and more.

25 cli directory

by Keith Cameron

Cameron takes a close look at the Shell and how it really works.

27 Bug Bytes

by John Steiner

Concerns this month center around ADPro and the HP Deskjet 500C, the Multi-Start ROM Switcher, and the GVP/Supra conflict.

60 ARexx

by Merrill Callaway

This month Callaway focuses on an assortment of smaller subjects; for example, quoting.

69 Roomers

by The Bandito

Commodore delivers its long-awaited fiscal year-end financial report. As CD³² reaches phenomenal sales in Europe, other CD platforms hit snags.

84 Diversions

This month's Diversions includes *Lemmings 2: The Tribes*, *Lionheart*, *Syndicate*, *Street Fighter 2*, *Shadowlands*, and *Walker*.

Departments

Editorial6

List of Advertisers80

Feedback90

CD³² Special96

CD³² SPECIAL:



CD³² is here—Europe's hottest selling game machine is finally in North America. p. 96

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Amazing Computing For The Commodore Amiga™ (ISSN 1053-4547) is published monthly by PiM Publications, Inc., Carrant Road, P.O. Box 2140, Fall River, MA 02722-2140, Phone 1-508-678-4200, 1-800-345-3360, and FAX 1-508 675-6002.

U.S. subscription rate is \$29.95 for one year; \$46.00, two years. Subscriptions outside the U.S. are as follows: Canada & Mexico \$38.95 (U.S. funds) one year only; Foreign Surface \$49.97. All payments must be in U.S. funds on a U.S. bank. Due to erratic postal changes, all foreign rates are one-year only.

Second-Class Postage paid at Fall River, MA 02722 and additional mailing offices.

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&
Ingram Periodicals Inc.
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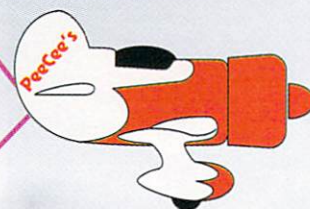
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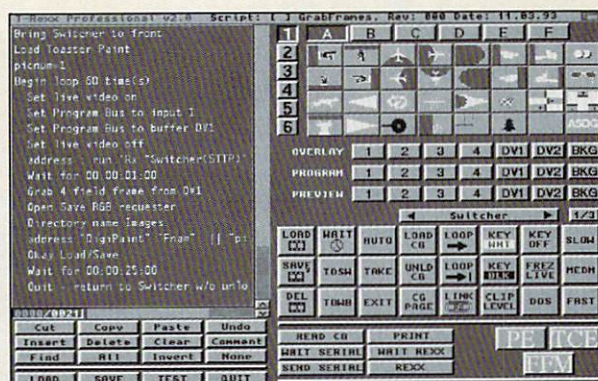
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EDITORIAL CONTENT

Making all the pieces fit.

This issue of *Amazing Computing* is filled with an assortment of stories and articles as fresh as we can make them. From the final arrival of CD³² to North America (OK Canada) to Lew Eggebrecht's announcements at World Of Commodore Amiga in Toronto, over 15% of this issue was created less than two weeks before shipment. And it wasn't easy.

I have learned some things in creating this issue. The Amiga is doing better than we had been expecting. CD³² is still breaking sales records in Europe. And we should all expect a little more from ourselves.

changes we have all made. An important executive was able to be at home with his family and still able to handle the day-to-day necessities of his job. Obviously, the end result is a happy executive, but does that mean that the work gets done. You be the judge.

Please read the interview with Lew on page 32 as well as the excerpt from the speech he made in Toronto on page 57. Lew, with the help of his Commodore staff, has been able to get CD³² from the drawing board to the dealers shelves with incredible results. In addition, work on the AAA chip set is moving

levels of the machine. This means that virtually anything an Amiga can do, a CD³² unit can be built to do the same.

So why is this just a test? We want to see CD³² here in quantity. If that means we need to inform the public what CD³² is and how it works, then that is what we are going to do.

AC has always backed the Amiga with muscle. From the first issues of *Amazing Computing* to the Winter '94 AC's GUIDE, we have continued to develop products that support the user and the Amiga.

Our test with this CD³² column is to see if we can disseminate enough facts about the

Until then, I was not truly aware of the changes we have all made. An important executive was able to be at home with his family and still able to handle the day-to-day necessities of his job.

Lew Eggebrecht

Lew Eggebrecht is Vice President of Engineering at Commodore. While he works in West Chester, he maintains his home in Colorado. This means he spends part of the week pushing through new designs for the Amiga and the rest of his week at his home in the mountains. Before anyone begins to believe that this is all fun and games, the man is never out of touch with West Chester.

During the work on this interview, I needed to contact Lew. I called his office in West Chester and spoke to his assistant. She told me he was out of the office. I told her who I was and that I was working on the interview. I also said I knew he was probably in Colorado and that I would call back in a few days. She stopped me, told me to hold, and, in a few seconds, Lew's voice was on the line.

"I thought you were in Colorado?"

"I am," he replied, "they just forwarded your call to me."

Until then, I was not truly aware of the

quickly, with a AAA chip set due possibly as early as fall of 1994. This is one of the best sales pitches I have ever heard for tele-commuting employees.

On CD³²

This issue we have added a new section for CD³² news and reviews. To be frank, this is a test. The new platform is selling extremely well in Europe and we have every confidence it will do as well here.

As I have said often (and to more and more people), CD³² is a better platform than anything any of the competition have supplied. Its operating system is sound and is supported by over eight years of development tools. As far as design specifications—few of the competitors can come close to what CD³² has. When we add the fact that this is really an Amiga with a CD strapped to its top, all of us know what it can do.

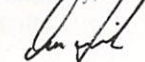
The interesting thing is that the designers allowed the Amiga to shine through. The hardware port is fully functional with all

new platform to convince other media sources that CD³² is a truly viable and important platform.

The test is to see if breaking the CD³² coverage away from the rest of the magazine is the way to accomplish this. If not, we will try something else. There is one thing we have learned in over eight years of Amiga service: do everything you can and you will never need to apologize.

I think this is why Lew Eggebrecht and his wife have been married for over 30 years. He works hard and he pays attention to the important things in life. If we all follow his example, we have a great deal to look forward to.

Sincerely,



Don Hicks
Managing Editor

Picasso II

Retargetable Graphics* have arrived! 24 bit graphics for your Amiga®

Picasso II RTG (Retargetable Graphics) means *Incredible New Graphics Power for your Amiga.*

Providing greater resolutions and more speed than AGA systems and the ability to run system friendly AGA software, the Picasso II is a next generation graphics display system. Your Amiga will be able to run all the latest software at resolutions up to 1280 x 1024 with 256 colors on screen. The Picasso II also supports custom screen modes with up to 16.7 million colors at resolutions as high as 800x600.

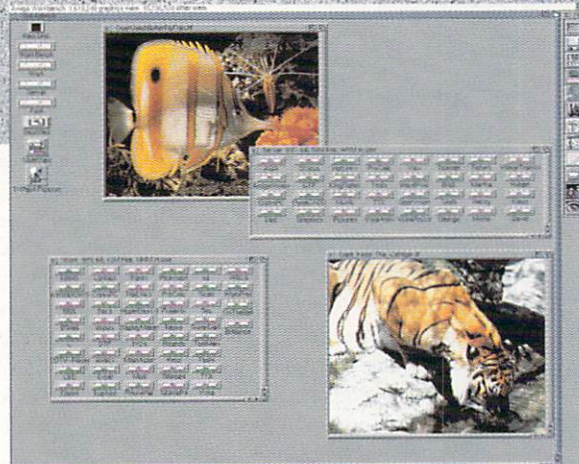
Picasso II RTG means *No Waiting for Specially Programmed Versions of Your Favorite Software.*

The Picasso II RTG emulator is completely integrated into the system. Imagine being able to run the latest software packages like ProPage 4.1, PageStream 2.2, Cygnus Ed 3.5, Deluxe Music Construction Set 2.0, AmigaVision Professional and many others at resolutions up to 1280x1024 and up to 256 colors. All system friendly Amiga software packages will be able to take advantage of the new screen modes offered by the Picasso II.

Picasso II RTG means *Hi-Performance.*

The Picasso II has an on-board Blitter which supports drawing speeds up to 30 megabytes per second. The Picasso II Blitter has been fully integrated into the RTG emulator. Any program running under the RTG emulator will automatically take advantage of the Blitter. Off screen displays are moved into Picasso II display memory using the Blitter for super fast screen updates.

1280 x 1024
256 color
Workbench screen
displayed on an
A3000 with the
Picasso II.



Picasso II RTG means *No More 'Chip Ram Blues'*

The Picasso II RTG emulator has been designed so that it uses no chip ram for its emulation. Only the currently visible display is kept in the Picasso II display memory, all other screens are stored in standard system memory. This means that all system memory can be used as graphics memory. A system equipped with 16 megabytes of ram would be like having a 16 megabyte graphics board!

Picasso II RTG means *Maximum Compatibility.*

The Picasso II RTG emulator supports Workbench 2.04, 2.1, 3.0, and beyond. The Picasso II is compatible with any Zorro II or Zorro III equipped Amiga system, such as the A2000, A3000, or A4000.

Picasso II AutoSwitch means *One Monitor.*

The Picasso II comes with a built in electronic switch that automatically routes the proper signal to your monitor. When the AutoSwitch detects non-Picasso II screens, such as those used by games and older software, it automatically routes the signal directly to your monitor. When the AutoSwitch senses a Picasso II screen mode, it will automatically switch back.

The Picasso II comes packaged with TVPaint Jr. (24 Bit Paint Program), and drivers for ArtDept Professional, ImageFx, ImageMaster, and Real 3D 2.0.

***Re-tar-get-ab-le Gra-phics adj.:** The ability to run software on any third party graphics board. See also: Picasso II.



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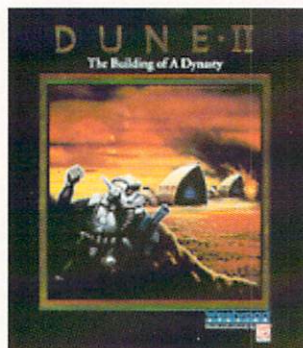
Circle 116 on Reader Service card.

NEW PRODUCTS

and other neat stuff

Artworks Clip Art Library

Artworks Clip Art Library (\$49.95) is a collection of over 1500 original, high-quality images. They can be used for a wide range of projects such as greeting cards, letterheads, logos, video titling, etc. These clips can be used in programs such as DeluxePaint, Scala, Final Copy, ProWrite, ProPage, PageStream, and any other program that supports the standard Amiga IFF format. *Visual Inspirations*, 809 West Hollywood, Tampa, FL 33604. Inquiry #200



Dune II

In *Dune II*, you're a warlord fighting for domination over the spice-laden sands of Dune, where the Emperor officiates over a contest to harvest the most spice and thus win control of the planet. As either the honorable Atreides, the mysterious Ordos, or the brutal Harkonnens, you must overcome violent known and unknown adversaries to build up military prowess, political security, and mining monopolies

to secure the future of your dynasty on the planet of Dune. Problems abound on *Dune II*: marauding Fremen of the untamed desert, greedy merchants of CHOAM, the treacherous Emperor, and wildly destructive sandworms that do not discriminate between you and your enemy. *Virgin Games, Inc.*, 18061 Fitch Ave., Irvine, CA 92714, (714) 833-8710. Inquiry #202

Mailing List Manager

A new style of database with many features not found in packages available today. While basically designed as a mailing list, it can be fully customized by the user. Full sorting and pattern matching on all fields. You can attach external data files and even interlink them with different entries. Phone numbers can be dialed directly from the screen. *Mailing List Manager* (\$79.95) has tons of options for printing. *Visual Inspirations*, 809 West Hollywood, Tampa, FL 33604. Inquiry #203



Music-X 2.0

Music-X 2.0 (\$199.95) has all of the features of the original program with the addition of new modules. This version has been expanded to support more than a dozen additional MIDI commands, making your Amiga perform as a 16-channel, polyphonic synthesizer playing a maximum of four notes at one time. *Music-X* now can recognize Attack Velocity when playing Amiga samples. Included with *Music-X 2.0* is the latest addition to the Music Software library, *Notator-X*. *Hollyware Entertainment*, 13464 Washington, Marina del Rey, CA 90291, (310) 822-9200. Inquiry #204

Notator-X

Notator-X (\$79.95) is a score-writing package and is designed to work not only with *Music-X 2.0*, but with any sequencer program that supports the MIDI file format. Scores can be created from scratch or by importing *Music-X* or any MIDI files. *Notator-X* and *Music-X* will work in unison, allowing data to be exchanged internally without the necessity of any file saving. *Hollyware Entertainment*, 13464 Washington, Marina del Rey, CA 90291, (310) 822-9200. Inquiry #205

The Patrician

The Patrician (\$59.95) is a vast trading simulation/strategy game based in Germany. Become totally engrossed in this medieval world and take your rightful place in the Hanseatic League—the powerful group of highly organized traders who transformed international trading in the Middle Ages. In *The Patrician*, you become a member of this social elite, and begin to trade your way to the top, maneuvering your social and financial status from humble merchant to become elected Mayor and ultimately Alderman of the League. But beware, the road to the top is bumpy. Every decision you make has a bearing on what happens later so you must be a skilled

strategist in all aspects of your life, and while you can use fair means or foul in your climb to the top, be sure you've weighed all the consequences of your actions. *ReadySoft Incorporated*, 30 Wertheim Court Suite 2, Richmond Hill, Ontario, Canada L4B 1B9, (905) 731-4175. Inquiry #206



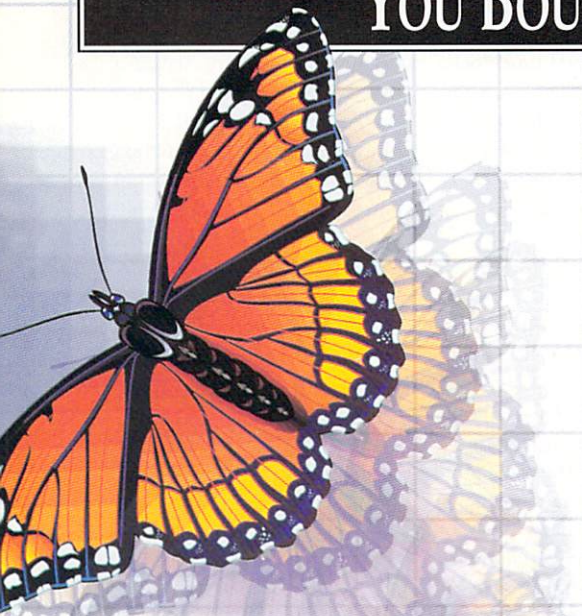
RexxVar 1.0

RexxVar is a simple but powerful way of exchanging data between ARexx variables and any program that uses input and output files. The output from a command or program can be placed in either one ARexx variable or in a stem array, while the input to a command or program can be read from either an ARexx variable or stem array. With just one line of ARexx code using *RexxVar*, words in a variable or elements of a stem array can be either sorted, searched, edited, appended, written anywhere, converted, or passed to other ARexx programs. One line of ARexx code can also put the contents of a file, as well as the results of any program that would normally write its output to the console, into a variable or stem array for use within an ARexx program. *AugmenTek*, 3606 S. 180th St. C-22, SeaTac, WA 98188-4339, (206) 246-6077. Inquiry #207

Toaster Toolbox 4000

The *Toaster Toolbox 4000* is a slot expansion system designed for the Amiga 4000, but is compatible with all Amiga Video Toaster Systems. The *Toaster Toolbox 4000* provides eight ex

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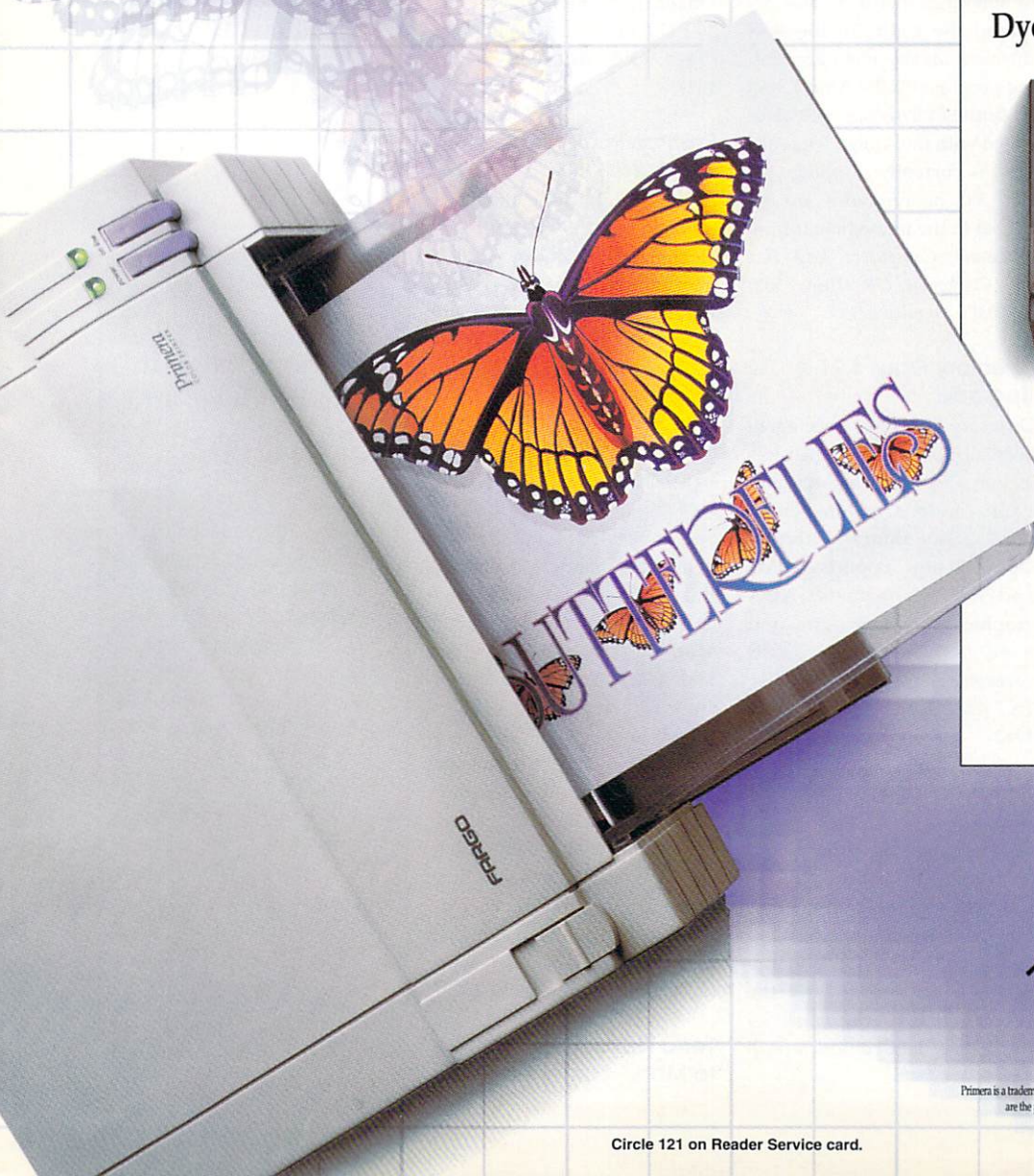


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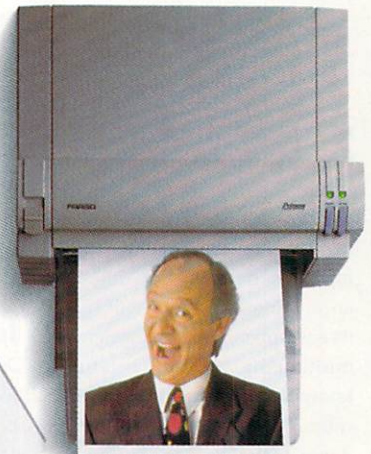
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NEW PRODUCTS

and other neat stuff

pansion slots for video toaster internal peripherals such as time-base correctors, vectorscope and waveform monitors, single frame controllers, edit controllers, sync generators, and more in a color-matched case with a 200-watt supply. *Desktop Video Systems, 14121 West 95th St., Lenexa, KS 66215, (913) 782-8888. Inquiry #208*

• Other Neat Stuff •

Ameritech and Scala Form Multimedia Alliance

Ameritech announced an alliance with the software firm Scala, Inc., to market computer-based information networks. With this alliance, Ameritech now will offer its customers Scala's proprietary multimedia network product, known as InfoChannel. Specifically, customers can call upon Ameritech to design, install, maintain, and provide training for their own multimedia networks which utilize the Scala InfoChannel software to create the onscreen material and to update, schedule, and transmit the information over standard telephone lines. *Ameritech, 30 South Wacker Drive, Suite 3400, Chicago, IL 60606, (800) 451-5283. Inquiry #209*

Area52 Update and Address Change

Amiga Online Reference Manual version 2.2 (\$34.95) is now shipping. The AORM hypertext tutorial software features new modules such as online help for using

LightWave 3D, ADPro, and most Workbench tools and utilities. The Hardware modules have been updated to include the CD32 game console. More Amiga models are now listed for each given topic, and a new format is now used to display information regarding each system. The index has been expanded to include more reference information, and the glossary has been expanded to conform to the newly added modules.

Also new from Area52 is a change of address. Formerly located in Liverpool, NY, Area52 has relocated to East Setauket, NY. *Area52, 6 Lodge Lane, East Setauket, NY 11733, (516) 476-1615. Inquiry #210*

Clackamas Computers Acquired Rights to Best

Clackamas Computers is pleased to announce that they have acquired the rights to the Best Business Management accounting program for the Amiga, and all printed forms business associated with the Amiga. The software is currently shipping version 3.0; no upgrades are expected in the immediate future. *Clackamas Computers, P.O. Box 769, Clackamas, OR 97015, (503) 650-0379. Inquiry #211*

Directory Opus 4.11 Upgrade

Directory Opus has once again been upgraded. New features include: Copy Progress Indicator, Paint Mode, Custom Screen Border, Save Button. Directory Opus 4.11 now supports ANIM7 and ANIM8 formats, AGA graphics, Public Screens, and more. *INOVAtronic, Inc., 8499 Greenville Ave., Ste. 209B, Dallas, TX 75231, (214) 340-4991. Inquiry #212*

Great Valley Products News

GVP announced that it has placed a freely distributed EGS Developer's Kit on CompuServe. GVP also began shipping their new A1230 Turbo+ Performance Series II accelerator and the A1291 SCSI Kit Performance Series II. These latest products push

the Amiga 1200's performance to the maximum with a 50MHz or 40MHz 68030 with a socket for an optional math coprocessor chip (68882), up to 32MB of RAM, a battery-backed real-time clock, and a DMA Peripheral Port for additional feature modules. *Great Valley Products, 657 Clark Ave., King of Prussia, PA 19406, (215) 354-9495. Inquiry #213*

MicroTouch Touch Monitor

MicroTouch introduced the low-cost TruePoint CA-42 Touch Monitor, a durable touch-screen monitor for Amiga-based multimedia, kiosk, training, and business applications. The TruePoint package includes the new high-resolution Commodore 1942 14-inch display, a completely integrated capacitive touch screen, controller, and the AmigaTouch Driver. *MicroTouch Systems, Inc., 300 Griffin Park, Methuen, MA 01844, (508) 659-9000. Inquiry #214*

Positron Publishing Relocates

Positron Publishing, formerly located at 1125 S. 119th St., Omaha, NE, has moved to 1915 N. 121st St., Omaha, NE. *Positron Publishing, 1915 N. 121st St., Suite D, Omaha, NE 68154, (800) 365-1002, (402) 493-6280, fax (402) 493-6254. Inquiry #217*

Seven Seas Forms LightWave-MathVISION Net

Seven Seas Software has announced an Internet tech-support link for users of LightWave Modeler's new macro: MathVISION Plot. The MathVision Gold Net is open to subscribers of MathVISION Video Gold.

The MathVision Gold Net will offer an in-depth discussion group and tech-support for LightWave/MathVISION users and is Internet-accessible from CompuServe, BIX, and GENie. *Seven Seas Software, Inc., P.O. Box 1451, Port Townsend, WA 98368, (206) 385-1956. Inquiry #215*

Terra Nova Adds Support to Magic Lantern

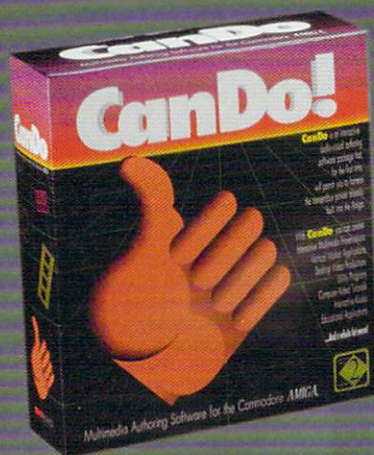
Magic Lantern (\$95) now supports two new displays: The Picasso II and OpalVision. Using standard IFF image and sound files for input, Magic Lantern compiles animations using a wide selection of compression schemes. This offers artists the ability to optimize an animation either for speed or for maximum compression. *Terra Nova Development, Post Office Box 2202, Ventura, CA 93002. Inquiry #216*

New Products and Other Neat Stuff is compiled by Elizabeth Harris.

How to get your products listed in New Products and Other Neat Stuff

Send a 75 - 100 word descriptive press release and two copies of the hardware or software. Please include product name, company name, full address, and telephone number. Our mailing address is PiM Publications, Attn: New Products Editor, P.O. Box 2140, Fall River, MA 02722-2140. For UPS and Federal Express, our address is PiM Publications, Attn: New Products Editor, 1 Currant Place, Currant Rd., Fall River Industrial Park, Fall River, MA 02720-2140.

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REVIEWS

Diner Object Set for Imagine

by Douglas J. Nakahihara

Brad Schenck is certainly one of the legendary names in the Amiga community. His animations are probably responsible for getting many people interested in the Amiga. These include two of my favorites, *The Sentinel* and *Off the Record*.

Diner Objects

Mr. Schenck is releasing his first commercial set of 3-D *Imagine* objects. The three-disk package comes with all of the objects necessary to build a

complete 1950's diner. When I say everything, I really mean it. The list of objects include counter, booth, jukebox, pay telephone, dish, cup, table, water glass, napkin holder, salt and pepper shakers, silverware, stool, sugar jar, toilet, donuts, chalk board, menu, sink, doors, walls, and ceiling.

In particular, the jukebox and telephone are exceptionally detailed objects. According to the manual, which includes a description of every object, the jukebox is a Wurlitzer 1015.

Supposedly this was popular in the late 1940s and currently is often used in advertisements and films.

Many of these objects were used in the creation of *The Labyrinth of Time*, an upcoming CD-based game for various platforms including CD32 to be distributed by Electronic Arts.

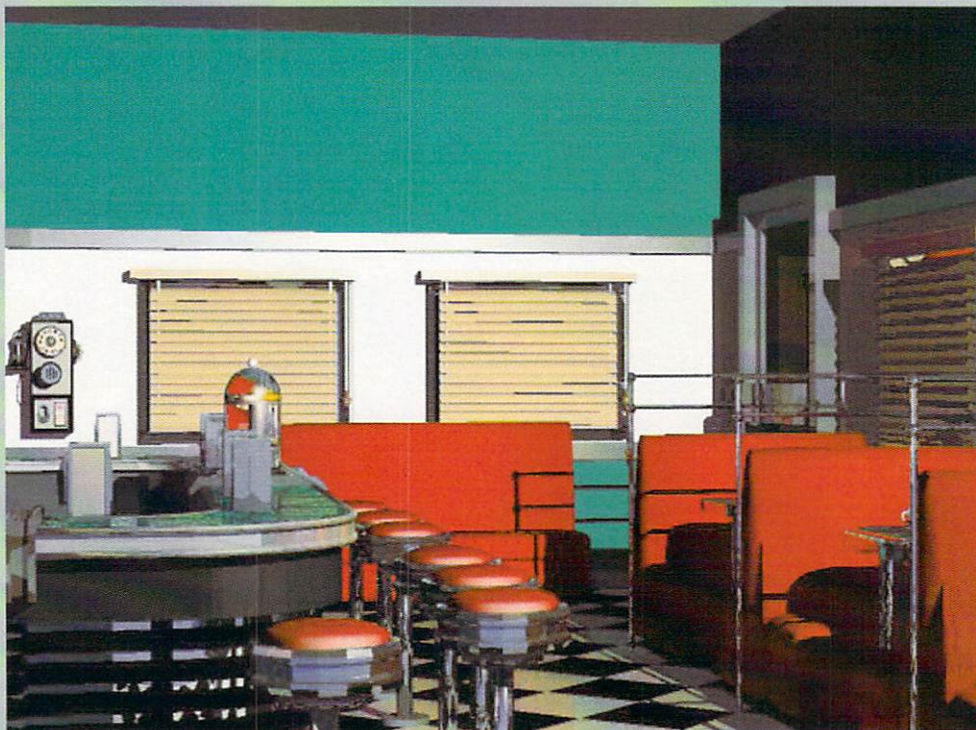
Lo-Res Objects

Some objects have high- and low-resolution versions. Lo-res versions can be used where extreme detail is not necessary or desired. For example, objects placed far from the camera's location probably don't need to be as detailed as something closer. Lo-res objects render much faster than their hi-res counterparts and require less memory. Careful selection of object versions can be important. To further help you conserve memory, the

manual includes a brief section on how to minimize memory requirements.

Pre-Defined Projects

To really make it simple to use the objects, Schenck has included two project staging files. One requires 14MB of RAM to render and the other needs 5MB. Each project has several different camera shots of the diner. Using one of these project files can save you the work of positioning all of the objects to create a virtual diner. The diner even has a bathroom. In fact, the scene includes everything except a kitchen, though there is a sink. Note: to use an example project you must first make a few special assignments so



that the objects and image maps can be found.

I rendered the sample project frames as 24-bit ILBM files using Imagine's ray-trace option with a resolution of 724 x 482. Some frames took nearly 26 hours to render on my aging A3000, but the results were more than worth the wait. Using the scanline option and a lower resolution, I cut rendering time to several frames per hour. Also, lowering the RSDP and increasing the EDLE values in Imagine's preference settings will speed up rendering time.

Modifying the Projects

Of course you can "rearrange the furniture" to your heart's content. For even more variations, you can create your own room—walls, ceiling, etc. are all separate objects. However, using the supplied project as a base, you can do some pretty cool animations by just moving the camera around.

If you modify the provided projects, make sure you are conservative in what objects are included in

each frame. That is, if an object is not in the camera's field of view, there is no reason to include it in the frame. If you analyze the Action settings, you will notice that Brad has done just that. Including unnecessary objects increases memory requirements and rendering time. So if you use a pre-defined project, make sure only the appropriate objects are included in the frame.

You might think it would be easier to include all of the objects in all frames. I tried this and found the memory requirements to be quite high. I had to use INOVAtronic's *GigaMem*, which allows you to use your hard disk as RAM, to supplement my 17MB of available RAM in order to render the frame.

No Waves

Although Imagine objects can be converted to *LightWave* format, a lot of detail is lost in the process. As such, actual *LightWave* format objects may be made available in the future, but this is not definite.

Compatibility

The manual highly recommends that the objects be used with version 2.0 of Imagine. However, it does provide information on how to get them to work with version 1.x. Imagine 3.0 is due out soon and should be backwards-compatible with 2.0 objects. Schenck has indicated that any necessary 3.0-compatibility upgrades would be free.

Brad is definitely one of the masters and it shows in this product. Even if you have the talent to create objects of this quality, the amount of time and effort you would have to invest makes the set's \$47.50 list price seem like stealing. If you need objects of this sort or just appreciate Brad's work, the *Diner Object Set* will not disappoint you.

Terra Nova Development
P.O. Box 2202
Ventura, CA 93002
(805) 652-0531
Inquiry #218



Magic Lantern

by Douglas J. Nakahara

Magic Lantern is a new animation-compiling program for all Amiga display modes including AGA, MacroSystemUS's Retina, Expert Services' Picasso II in 8-, 16-, and 24-bit modes, and GFXBase's GDA card in all 8-bit modes. Before *Magic Lantern*, there was really no easy way to combine animations and audio into a single, playable file on the Amiga.

Compression

Magic Lantern compiles images into a proprietary format called DIFF. Several delta-compression schemes are available, each representing a trade-off between file size and playback speed. Fortunately, there is an option to have this automatically set by the program.

Because *Magic Lantern* uses delta compression, the more alike frames are, the faster the animation can be played back. The comparison is made

on a pixel-by-pixel basis, and differences in palettes can be important. Now 16- and 24-bit images are called "true color" modes and you do not have to worry about their color palette. However, palette differences are important for all other display modes. For example, two 8-bit images might look identical, but differing palettes could make every pixel different. As such, it is recommended for optimum results, you try to use the same palette for every frame, if a non-true-color mode is used. This can be accomplished using an image-processing program.

Although you can specify the maximum frame rate, there is no guarantee it can be achieved. There is always a tradeoff between resolution, number of available colors, and playback speed. However, with delta-compressed animations, it's really only the change between frames that is

important. For example, even if the resolution were, say, 724 x 482, and if only a portion of the display changed from frame to frame, playback speed could still be high even in 24-bit mode. An example of this would be a small planet rotating over a fixed starfield.

Synchronize Mode

With the Synchronize option on, *Magic Lantern* will strictly enforce the user-specified frame rate. This means that if your system cannot keep up with the frame rate, frames will be dropped, that is, not shown. This is more akin to the Macintosh's QuickTime and differs from the normal Amiga ANIM formats, which just play the ANIM slower.

Sound files are broken up into smaller pieces and distributed throughout a synchronized animation file, instead of stored in a single chunk. The manual recommends using the raw, or no compression, option on these animations for smoother playback. The synchronize option was intended for animations that are to be spooled from a hard disk, but there is no reason to limit its use to that.

Buffering

Animations can be single or double buffered. *Single buffered*

Magic Lantern V1.1. Copyright © 1993 Terra Nova Development

Source Files		DIFF List
sa0001		taylor:AirCraft
sa0002		taylor:t2/sa0001
sa0003		taylor:t2/sa0002
sa0004		taylor:t2/sa0003
sa0005		taylor:t2/sa0004
sa0006		taylor:t2/sa0005
sa0007		taylor:t2/sa0006
sa0008		taylor:t2/sa0007
sa0009		taylor:t2/sa0008
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sa0026		taylor:t2/sa0025
sa0027		taylor:t2/sa0026
sa0028		taylor:t2/sa0027
sa0015		<end of list>

☐ Play all frames

☐ Synchronize

☐ Smallest

☐ Horizontal RLC

☐ Vertical RLC

☐ Raw

☐ Single Play

☐ Continuous

Max FPS

☐ Smallest Deltas

☐ Vertical Deltas

☐ Horizontal Deltas

☐ Lantern Chooses

☐ Small

☐ Faster

☐ Turbo

☐ Super Charged

☐ Double Buffered

☐ Single Buffered

Output Format

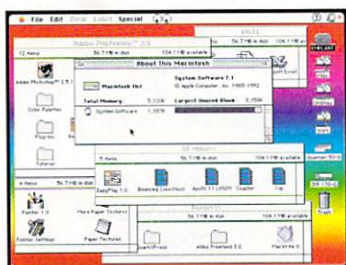
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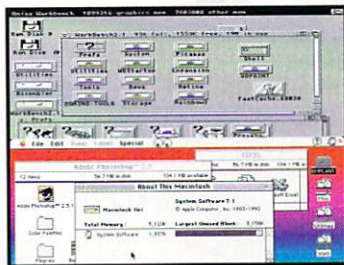
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EMPLANT is a state-of-the-art hardware board that is the foundation for emulating virtually any computer made today. A simple software driver and ROM(s) from the computer to be emulated are all that is required! Custom programmable logic allows the EEMPLANT hardware to actually become the exact hardware of the computer it is emulating! Multiple emulation modules can be run *at the same time* using a single EEMPLANT board!

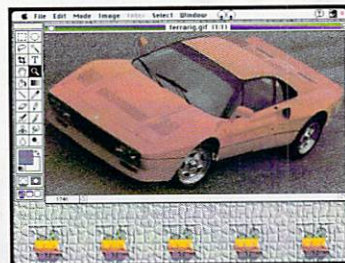
AppleTalk, printer, midi, and modem support can be provided through the two RS-422 serial ports. A high speed SCSI controller allows any SCSI device to be plugged directly into the EEMPLANT hardware (including scanners, SyQuest drives, hard drives, CD-ROM drives and more!). The serial ports and SCSI interface can be used by Amiga programs and emulation modules *at the same time*! The EEMPLANT hardware is a standard Zorro II/III plug in card for the A2000/3000/4000 (A500/1000 owners need a Zorro Bus adapter in order to use EEMPLANT). A PCMCIA version for the A600/A1200 will be available in the near future.



Typical Mac emulation screen.



Multitasking! Just flip or drag down the emulation screen!

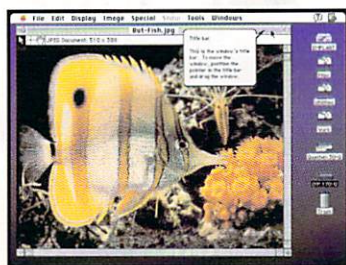


Adobe PhotoShop on your Amiga!

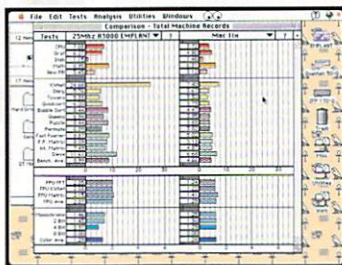
FAST, FULL COLOR, STEREO SOUND, MULTITASKING MACINTOSH EMULATION!

The Macintosh emulation is a 'generic' Mac, with speed based upon what Amiga system EEMPLANT is installed in. An A3000 is equivalent to a Mac IIci, and an A4000 is equivalent to a Quadra 700! **Don't be fooled** by other emulations using old 64K or 128K ROMs, **only 256K ROMs** (or later) provide support for color, stereo sound, ADB devices, and NuBus expansion, all of which are emulated by the EEMPLANT hardware and/or Mac emulation module! Due to the magic of the EEMPLANT hardware, Mac software that accesses Mac hardware registers directly **will** work!

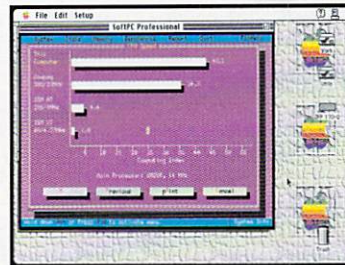
Support for up to 16 colors is provided for non-AGA machines. A4000 owners can use a full 256 colors! Support for Picasso II, EGS-28/24 Spectrum, Piccolo, Merlin, and Retina video boards is **available NOW!** Support for other video boards will be available soon! Imagine running PhotoShop in MILLIONS of colors on your Amiga! Now, imagine being able to 'flip' back to the Amiga side or drag down the Mac emulation screen! The Mac emulation (like all emulation modules being released for EEMPLANT) fully **multitasks** with the Amiga! Now, install one of the above mentioned video boards and imagine the ability to play double-size QuickTime(tm) movies (with full stereo sound) **FASTER** than the equivalent speed Mac! The Mac emulation module **requires** an accelerated Amiga - 68020, or a 68030/68040 w/MMU and 256K Mac ROMs (not provided).



24 bit video board support!
(Picasso II video shown)



Speedometer comparison.
(A3000/EEMPLANT vs MAC IIx)



Run PC software on your Mac!
(SoftPC Pro 'SI' rating shown)

FUTURE EMULATIONS!

Since the EEMPLANT's hardware is so versatile, a completely different computer can be emulated by just changing the emulation software patch and the ROM(s). Apple II/+e, Mega ST, IBM AT (386/486), C64/128, Atari 400/800, and even game machine (Genesis/SNES) emulators are planned in the near future...EEMPLANT is not limited to a single emulation!

PRICING

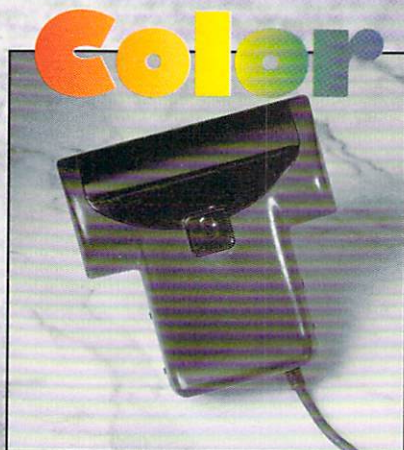
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 Shipping & Handling - \$10.00 per order (All orders shipped via UPS Blue/2 day service)
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All EEMPLANT packages described above come with Mac emulation software and necessary device drivers. ROM(s) are not shipped with this product. Sources available upon request.

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Works on all Amigas (except A1000) with 2MB RAM; 4MB and hard disk recommended.

Circle 130 on Reader Service card.

means that changes are written directly on the displayed screen. Double-buffered animations utilize an additional hidden screen. Changes are first written to the hidden screen before it is brought to the front. Double-buffered animations appear smoother because the viewer never sees any display updating, but playback speed will be reduced and the filesize will be larger. Generally, double buffering should be used when an animation doesn't play acceptably single buffered.

The Interface

The Magic Lantern interface is basically divided into three areas: the source file requester, the DIFF list, and the options section. The source file requester operates as you would expect. By clicking on files you can copy their name to the DIFF list. The DIFF list is a sequential listing of the frames to be included in the animation. Frames in the DIFF list, can be duplicated, deleted, or moved to a different position in the animation. Currently, there is no multiple-file selection feature, which can be a pain in some instances. However, there is a provision for copying over all of the files in a directory to the DIFF list.

Once the frames are in the desired order in the DIFF list, they are compiled into a DIFF ANIM file using the display mode set with the Output DIFF gadget. You can also load and play DIFF files. However, you cannot load DIFF files that are larger than available memory, even though you can create them. There is also an option that allows you to save frames in the DIFF list as individual files. Additionally, nearly every function in the user interface can be accessed via ARexx.

Adding Audio

Sound files are added and manipulated just like image frames, so audio can be triggered right at a particular frame. Only mono sound files are supported at this time, but more than one sound can be used in the same animation—if a new sound file begins while one is still playing, the old one will be terminated. The audio is simultaneously played through channels 3 and 4. I really hope this will be expanded to independently support each audio channel.

Performance

I tested the program with a 90-frame 24-bit *Imagine* animation. To achieve acceptable frame rates on my A3000, I used 320 x 200 resolution and created the DIFF ANIM using 16-bit Retina format at 30fps, double buffered, in non-synchronized mode. I also threw in a few audio samples. The results were excellent! The frame rate was right on, as was the audio. Of course, the 11MB DIFF ANIM had to be run from RAM as performance off the hard drive was abysmal.

You must realize that the program is only a "magic" lantern, not a miracle worker. Achievable frame rates will still depend on many factors, including your Amiga's capabilities, the selected display-mode and resolution, and the delta, that is, difference, between each frame. This will probably require you to do several test runs using various versions of your images. As such, if you are not adept at writing ARexx scripts, I suggest getting one of the batch control front-ends for your image-processing programs.

Two freely-distributable player programs come with the program, *PlayDiff* and *PlayDiffHD*. *PlayDiffHD* will spool animations directly from a hard drive; however, performance will most likely be less than acceptable unless you are using a CPU-SCSI accelerator board or an A4000 with SCSI II board. As such, for most people, playback time will depend on available RAM and the size of the animation.

The 35-page manual is well written and informative. The author, Michal Todorovic, who also programmed Gold Disk's *Advantage* and *Professional Calc*, adds his own special brand of humor in many instances—the program's requesters use "Of Course!" and "Whoops" in lieu of the standard "OK" and "Cancel."

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Inquiry #219

Tape backup devices are very handy and the only practical way to back up large hard drives. However, they are pretty expensive considering they are used only occasionally for a very specific task. Wouldn't it be nice if you could tap into the storage potential of a tape drive and use it for more than just a backup device? Well, with Moonlighter Software Development's TapeWorm-FS (\$129.95), an Amiga file system for SCSI tape devices, a tape can now be accessed like any other AmigaDOS volume! Your tape drive becomes a Write Once Read Many (WORM) drive, where everything that you write to the tape remains there, even if you delete a file. The fact that it is a WORM device may appear to be a limitation, but it is also a plus, in that older versions of files can be accessed without problem.

TapeWorm-FS requires AmigaDOS 2.0 or greater and a 8mm DAT or QIC SCSI tape drive. Drives that support SCSI II fast-search mode will realize superior performance. There are no minimum memory requirements. Although, the manual lists the Commodore A3070 as a compatible drive, it failed to work properly on mine until version 1.3 of the software was released. That said, I would definitely recommend you contact Moonlighter before you

purchase a tape drive or TapeWorm-FS to verify compatibility. The list also includes drives from Archive, Exabyte, HP, Sony, Tandberg, Teac, Wangtek, and Xybyte.

Installation and Configuration

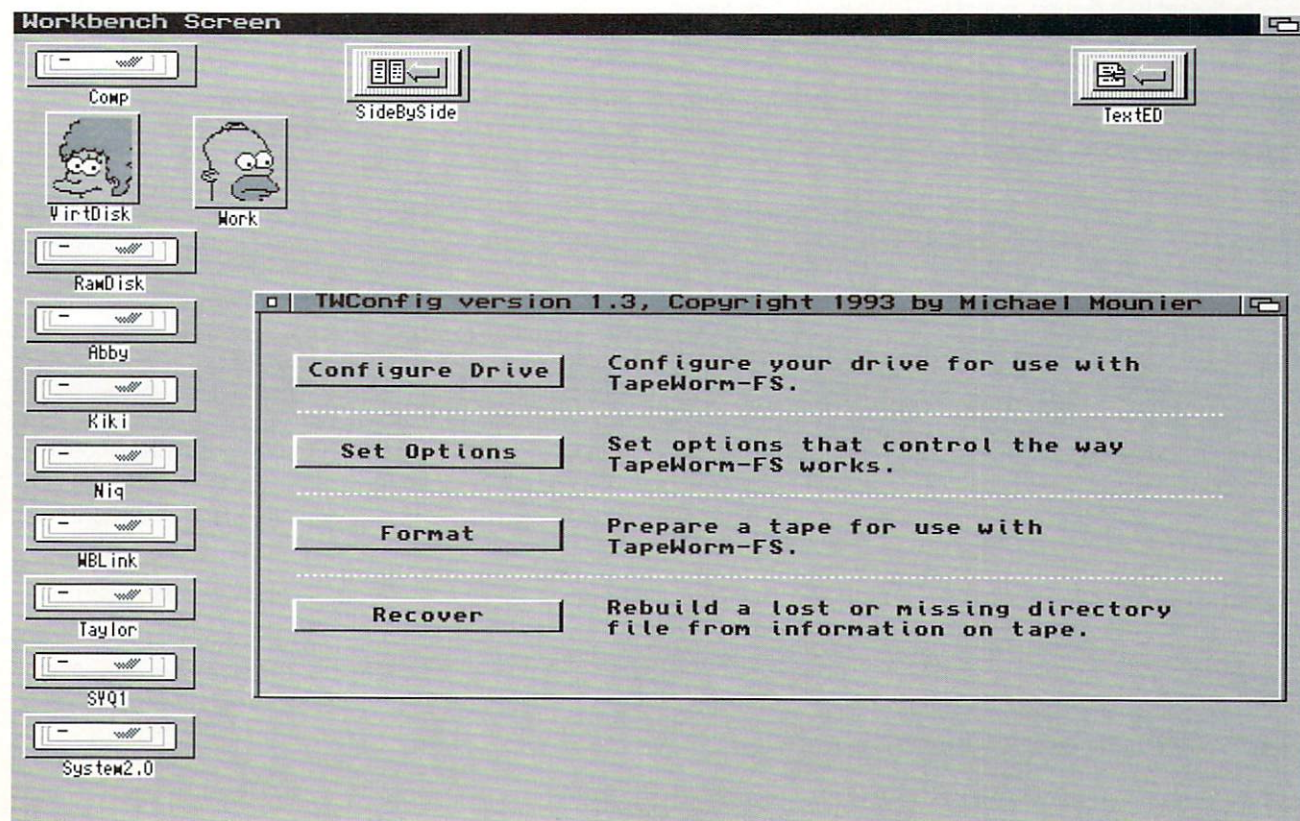
Installation is painlessly accomplished using the Commodore Installer and the TapeWorm-FS files are fairly small. Be sure to reboot after installing to mount the TAPE: device. Once running, you need to set some configuration settings to match your system. This is accomplished using the TWConfig program. These settings are device name, SCSI device number, block size, and tape size. The tape size is used to calculate the percentage of tape used.

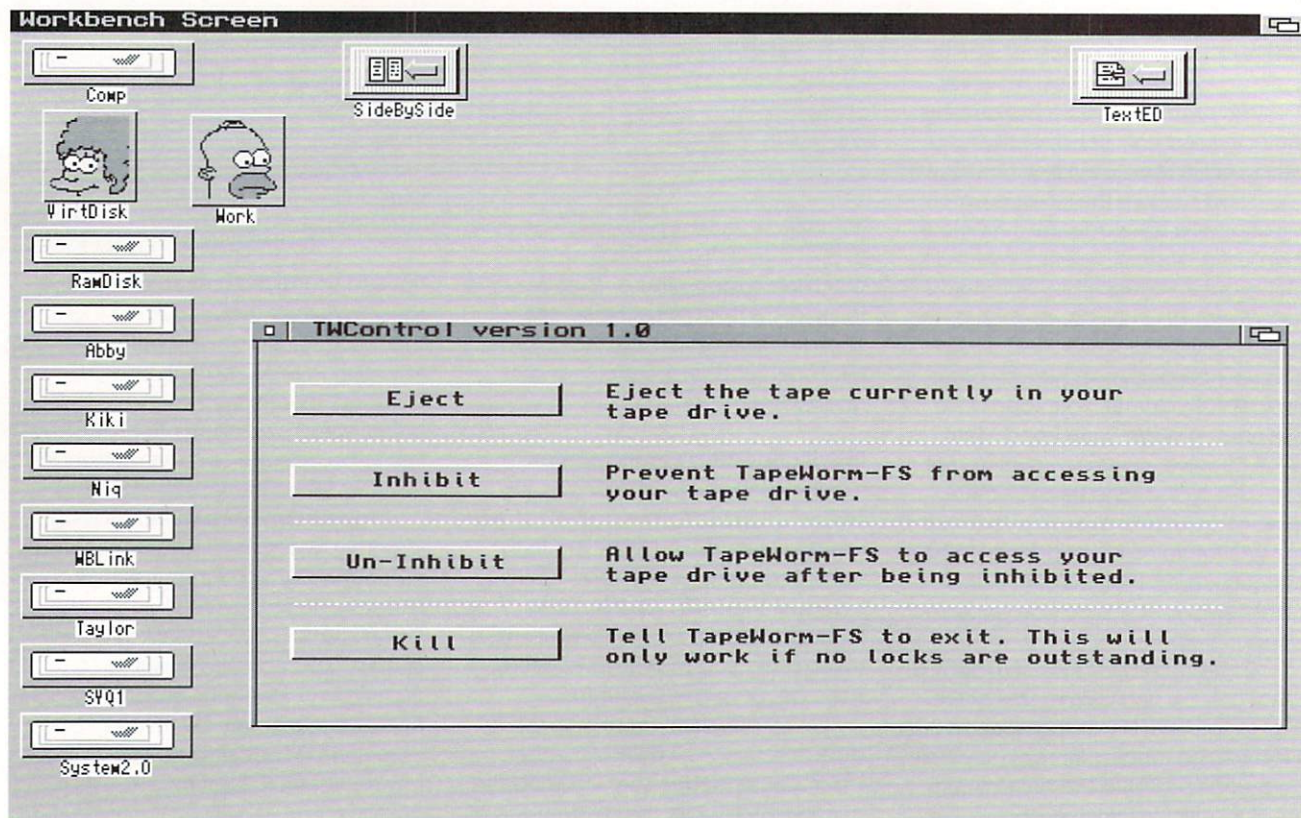
There are also a few options that can be set. Read and write buffers can be turned on to make using a tape drive a little more tolerable. If a file is in the buffer, then TapeWorm-FS does not

have to spend the time to cue up the tape. In normal usage, both of these should be turned on. The buffer defaults to saving to RAM:, but this can be modified. If both read and write buffers are enabled, you can optionally allow files to be opened and overwritten, in unWORM-like fashion.

TapeWorm-FS defaults to saving directory files to the S: directory. I would recommend you change this to a directory dedicated to saving these files—there is too much junk in S: already. You can also direct TapeWorm-FS to make all .info files a part of the directory file. This will speed up performance because TapeWorm-FS won't have to hunt for .info files on the tape.

If for some reason, a directory file becomes corrupt, you can rebuild it using the Recover feature of TWConfig. Also, for tape drives that support partitioning, there is an option to keep the directory right on the tape.





When a directory file gets very large, there will be a performance hit on directory operations. The manual explains that this is caused by the way AmigaDOS handles large files. It recommends that you have the hard drive buffer set to a number equal to the largest directory file divided by 36K.

Before you can use a tape, you must format it first. The format operation is accessed using TWConfig. As with floppy disks, it is a good idea to give each of your tapes a unique name.

Control

The TWCtrl program controls the general operation of TapeWorm-FS. You can temporarily turn off the file system, if you need to use the tape drive for something else, like backing up. You can also completely disengage it. This operation will only be successful if there are no system locks on the TAPE: device. These are things like assignments to TAPE:, a volume in the drive, a CLI in a TAPE: directory, etc. TWCtrl also has an option to eject a tape for drives that support this.

Usage

You can treat the TAPE: device just like any other storage device. Since many versions of the same file can appear on a tape, TapeWorm-FS

appends the @ character plus a version number starting with one to file and directory names. The current version of a file has no version number. To get a list of all files and versions in a directory listing, you simply type "DIR @" at a CLI prompt. Files are accessed as <filename>@<version> (e.g., Picture@2). When accessing TAPE: from a program, you may not be able to get a file requester to list all versions, but you should be able to access the files using the @-convention, if you know the full name with @ extension.

Performance

Because a tape drive is a linear storage device, it is generally pretty slow. However, most of the slowness relates to the drive's cueing activity. Unlike conventional storage mediums, there is no way to randomly access files, thus the drive has to fast-forward or rewind to find the correct location on a tape to read or write. To give you some perspective—where seek times for hard drives are measured in milliseconds, a tape drive's would be in seconds. Notwithstanding that, once the location is found, files are read and written fairly quickly. However, deleting a file is a significantly slower process.

The best application I can think of for using TapeWorm-FS is to store

sequentially-numbered animation frames. These files are normally written and read in exactly the same order; thus seek time would be kept to a minimum. Additionally, since it takes a while for each frame to be rendered, the slowness of the tape drive will not be a hindrance. Forget using it where fast disk access speed is required, like sequential video framegrabbing.

Besides the tape medium's inherent limitations, TapeWorm-FS itself performed flawlessly. Suddenly I have 250MB of storage space that I couldn't even utilize before. I was quite surprised and pleased with the performance of my A3070; Moonlighter indicates that DAT drives will provide substantially faster performance with a capacity up to 16GB. This product lets you get so much more out of your tape drive, no tape drive owner should be without it. I imagine there are a few 3-D rendering people out there already fumbling for their credit cards!

TapeWorm-FS
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FinalWriter

by Merrill Callaway

SoftWood, Inc., maker of *FinalCopy II*, has launched a new word processor named *FinalWriter*. Why yet another word processor? SoftWood made the sensible choice to continue to support *FinalCopy II* because it works with all Amigas from System 1.3 up, does not require a hard drive, and needs only the minimum 1MB RAM size. At the same time, they were aware that a growing number of Amigans, deemed to be power users, who have AmigaDOS 2.0 and up, a big hard

drive, and 2MB of RAM or more, might appreciate a high-end word processor that takes advantage of the power in their machines. *FinalWriter* fills the need for a powerful, feature-loaded tool for writers. Not only is it a word processor, it has many features found only in desktop publishing programs, and several extremely useful features found nowhere else! For instance, *FinalWriter* has the ability to build an index or a table of contents from a document so you don't have to. Indexing is a

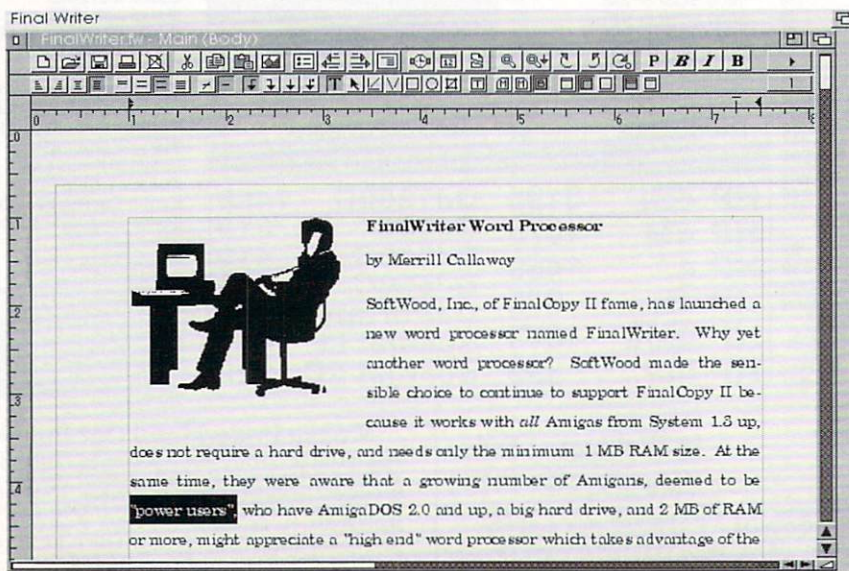
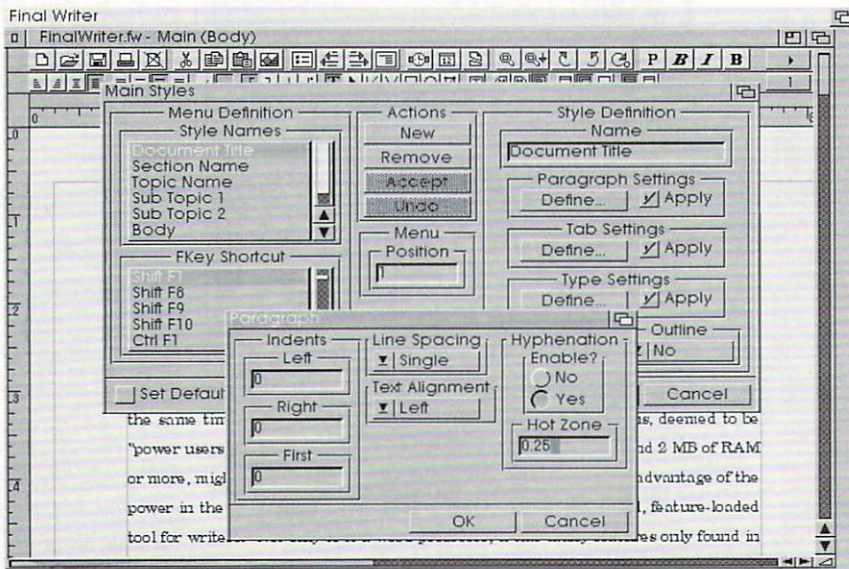
necessary feature that other products, even expensive DTP programs, have regrettably omitted. *FinalWriter* may well meet the needs of many people in desktop publishing better than a more fully-featured DTP program can. It's that good. It's easy to judge simply by looking at the manual, written, laid out, and illustrated in *FinalWriter*. The product is very intuitive to use, however, and my manual remains largely unused, despite its attractiveness. After using the product for only a short while, I feel at home writing with it. Every aspect of the product is first rate, but its quality is definitely not reflected in the price, which is very reasonable.

Brand New Features

FinalWriter is not an upgrade to *FinalCopy II*, but a completely new product. The look/feel of it, however, is very similar to *FinalCopy II* and other SoftWood products. If you own any of them, you'll be up to speed in no time. If not, the manual explains everything clearly and provides copious illustrations. The most obvious changes are the added features. A new row of user-defined buttons appears above the row of permanent buttons. The menu acts the same as previous SoftWood products, except that the user may now define custom menu items. There is an expanded ARexx command set. A single ARexx command is called a "string command" within *FinalWriter*. The User-Menu/Other item allows execution of a string command. String commands may be intermixed with ARexx statements to make an ARexx macro. There are 61 pages in the manual explaining all the ARexx commands. SoftWood's manual writer doesn't know the name of her program's ARexx port, however. ARexx port names are case sensitive. *FinalWriter*'s ports are all uppercase as in FINALW.1, not as shown in the manual as FinalW.1. *FinalWriter* depends heavily on ARexx, particularly if you wish to customize anything. There are several useful ARexx macros included to get you started.

Installation

FinalWriter comes on seven disks, containing 120 outline fonts, 100 EPS clip-art images, and installs effortlessly using Commodore's Installer program. A full installation needs 9.2MB of storage, and a minimum installation



needs 2.5MB. All the fonts, clip-art, and support files install in one directory. There are no assignments necessary. FinalWriter launches from the Workbench or from the CLI/Shell. You may specify a file as a command line argument. FinalWriter will load it at startup. You may load FinalCopy II documents into FinalWriter and vice versa without losing fonts or formatting. Unfortunately, you may not load a document size larger than the available memory. I am told this is a priority for the next version. Medium-sized documents should not be a problem for most systems.

Customizing FinalWriter

Two areas allow users to customize FinalWriter to their specifications: the User Buttons, and the User Menu. The User Button area contains several pre-configured buttons to do things such as open a file, cut, paste, print, and so forth. There is also standard menu activation as well as keyboard shortcuts. Customizing is accomplished through the first two items in the Project/Preferences menu. Whether you choose to customize the menu or the buttons, a requester opens, allowing you to control the operation of FinalWriter. The custom action may be to execute an ARexx script or a string command, insert a text clip, or perform a menu command. In every case, you may search for the correct file. If you choose to perform an ARexx script, and then choose Search, the requester opens in the proper subdirectory. Once you choose an action, accept it, and the new User Menu item is added to the list, you may edit, delete, or re-order it. You may assign it a shortcut function key—plain or qualified with shift, alt, and ctrl.

In the User Button requester, you may assign up to eight banks of custom buttons. A column of buttons with pre-defined icons on them appears at the left. Many of these are pre-configured with actions. To add a button to a bank, simply drag it and drop it into the bank's window with the mouse. To remove it, just drag and drop it outside the window. Actions may be attached to buttons the same way as in the User Menu preferences. There is an arrow button on the main interface to switch between button banks once they are defined and accepted in preferences. Buttons are a great idea, but there is no

reference list in the manual for which buttons come pre-configured. You may not edit the graphics of any of the buttons. The generic buttons come with letters, geometric shapes, and various colors, but it would be useful to be able to draw your own icons on them. The pre-configured buttons come with

mnemonic icons such as a pair of scissors for the cut button, a disk for the save button, etc. The permanent button row below contains formatting and display options such as right- or left-justified text, spacing, hyphenation or not, tab stops, the text and object pointers, drawing tools, master and



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body pages, ruler gadgets, etc.

I installed the buttons for Italic, Bold, Bold-Italic, and Plain text, and also added these to the User Menu, complete with function key shortcuts to match their function key commands in *WordPerfect*: F3 for Italic, and F6 for Bold. It was quite easy to drag and drop the buttons, choose ARexx macro for the action, and search for the macros that change text to bold and italic format. The new buttons did not work with the font called "NC_Schoolbook." A trace of the ARexx macro indicated that the program was confused by the underline character because it searches for that character between the name and the style: as in *Courier_bold*. I changed the names of the fonts in the family to *NCSchoolbook*, *NCSchoolbook_bold*, etc. and the macro worked fine. The

menu items were assigned in a similar way without incident, so that F6 will bold the text, and F3 will italicize it.

SoftWood is famous for their exceptional thesaurus and spell checker. These are built-in to the FinalWriter menu and very easy to use. Any highlighted word will load into the thesaurus or spell checker when you start them up. You may check the spelling of one word or a whole document.

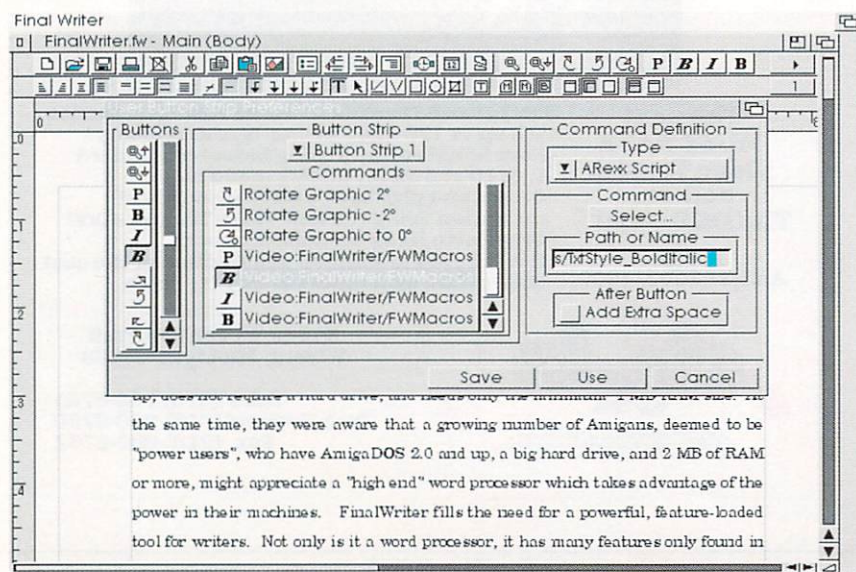
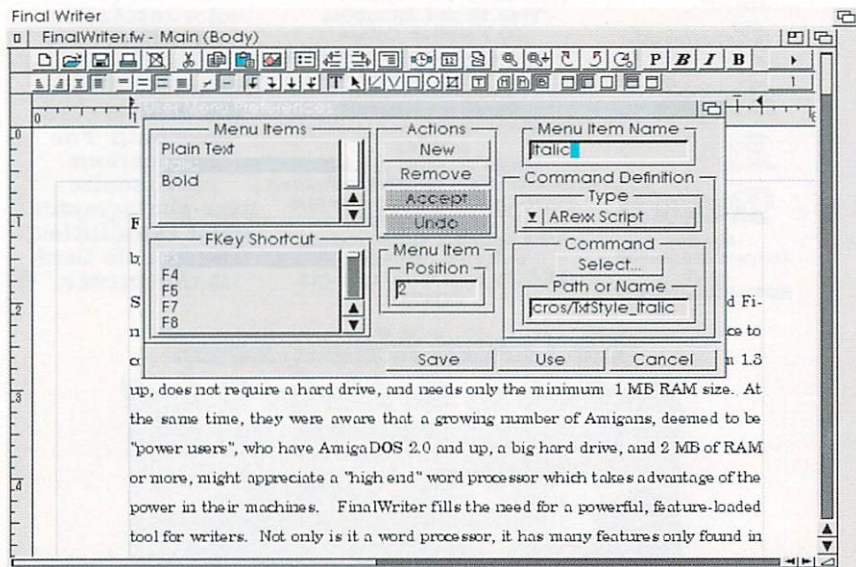
Graphics and More

FinalWriter has graphics functions for drawing boxes, ovals, and straight lines; importing, sizing, moving, rotating, and grouping; and locking, unlocking graphic objects, text objects, and IFF images. Text box objects of several words in any font/style may be rotated in one-degree increments. This proves

useful in making section tabs in manuals. While it is no substitute for a full-featured drawing program, FinalWriter is completely adequate for making the graphic objects necessary for manuals, newsletters, programs, and handbills. Besides graphics, there is a full set of text-attribute functions. Text styles may be user-defined and attached to other text blocks.

Perhaps the most desirable features are FinalWriter's Index and Table of Contents tools because they are missing in all other products. A single word, a selected range, or all words in a selected range may be added to the index list. The list may be edited. Once you are satisfied with the list, FinalWriter will build the index, attaching page number(s) for every occurrence in the document. If the document has final changes, simply create the index again, and the pages will be updated anew.

FinalWriter will sort paragraphs in any order; show your document's statistics; create endnotes, bibliographies, a table of illustrations, outlines from documents, and more. FinalWriter supports color, gray, and black-and-white printing in PostScript. You will get maximum performance from a PostScript printer and the SoftWood driver, but you may also print through a Preferences graphics printer. The performance then depends on your Preferences printer driver, but usually you get what you want with no fuss other than a longer wait. If you want the best Amiga word processor, you will not regret choosing to FinalWriter.



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 Inquiry #221

When the Amiga first appeared on the market in 1985, its 32-color lo-res images looked pretty snazzy compared with the then black-and-white Mac and the stale off-colors of the PC. But when the big boys of boring computers put their heads together, they came up with computers that could far outstrip the Amiga in terms of sheer display capability—but not animation. Alas, this story has been told numerous times, but since then, the Amiga has had numerous improvements both from Commodore (AGA) and from third-party developers in the form of 24-bit boards. One of these such boards, the GVP EGS 28/24 Spectrum, is particularly making a splash. With its display capabilities, graphics processing power, and very useful and powerful software, this board is likely to be a big hit in the alternative Amiga graphics market.

The board shows a very clean design. GVP even took into account the fact that most A3000s and the early A4000s contained a faulty bus controller (BUSTER). This deficiency makes running the Spectrum in full 32-bit ZORRO III mode impossible. So to remedy the situation, the company added a jumper that forces the board to operate in the slower 16-bit ZORRO II mode. This may be a temporary solution until the user can upgrade to the newer BUSTER. Since my motherboard is a factory-refurbished model, the new chip is already in place, and I am able to run the Spectrum in 32-bit mode.

On first inspection of the manual, I thought installation would be easy. Installing the board, however, proved to be much more difficult than the manual led on. When I removed the cover from my A3000 and tried installing the board into one of the ZORRO III slots, I couldn't get it to fit! The board was skewed to the left about 1/8" too much. After breathing an inordinate amount of blue smoke, I finally removed the plastic bracket to the front of the machine. Now the board fit, and I was in business. In defense of GVP, my A3000 is an older one, and it is possible that it was built with slightly different dimensions than the newer A3000s.

After getting all the software installed, I was able to run some tests on just how fast the board is. I first

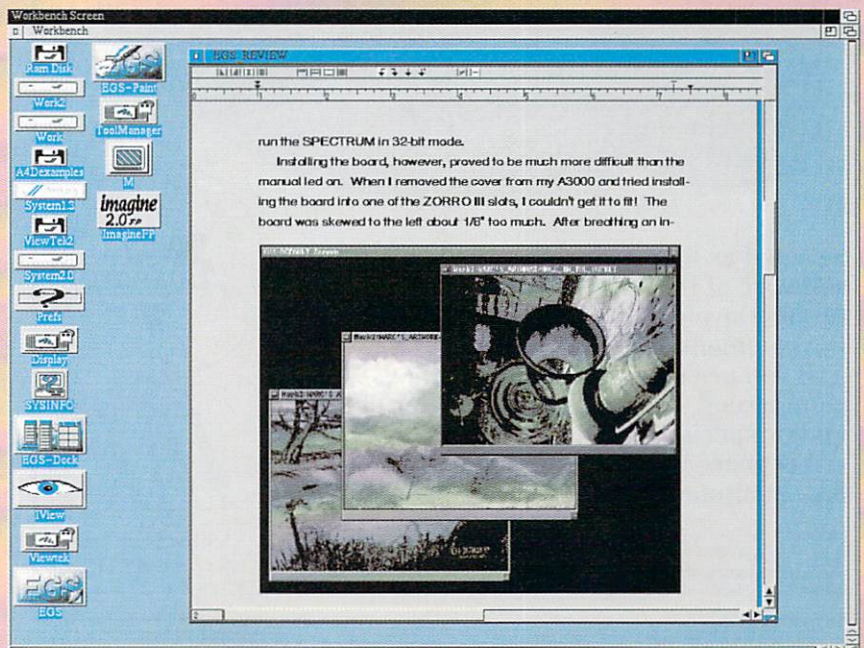
moved the Workbench to the Spectrum display, and was somewhat disappointed; the board was not showing any significant speed increase over my Amiga ECS chip set, and in even in as little as 32 colors, the Spectrum really started to slow down. A call to GVP cleared the matter up. It seems that Workbench/Kickstart 2.04 was not really designed to work with over 16 colors on screen at once, and so the board has to translate the information from the Workbench to the Spectrum's chunky pixel format (see below). Upgrading to 3.0 should ensure a significant speed boost in emulation of Workbench in the higher color modes such as 256 colors. This board is no slow poke, because when I ran the software written specifically for the board, the power of this product began to really show through. The Spectrum exhibited significant ability to move 24-bit, 640 x 480 graphic elements around the screen better than my ECS chip set can move 16-color graphics.

The Spectrum uses a concept known as "chunky pixels" to represent

graphics data within its memory. This is in contrast to the Amiga's "planar" graphics data representation. The difference is that with a standard Amiga display, each pixel contains one bit of display data. In order to get more colors, then, the Amiga must add more "layers" or bit "planes" to the screen. It is with the layering of these bitplanes that the Amiga is able to represent many thousands of colors on screen at once, and this method of display is very useful for video that requires overlay work. The Spectrum's chunky pixels are handled in a much different way. Within each of these chunky pixels is 32 bits worth of data (8 bits for red, 8 for green, 8 for blue, and 8 for reserved purposes). No matter how many colors are on screen at once, from two to 16.7 million, each pixel still represents 32 bits. Some interesting possibilities arise from this strategy, such as "pixel packing" to conserve the on-board maximum of 2MB of video RAM. So, for example, say that the board is displaying an 8-bit, 256-color screen. Normally, the Amiga (under AGA) would represent this screen using 8 bits per pixel, or eight

EGS 28/24 Spectrum

by Marc Hoffman



different bitplanes. The Spectrum, on the other hand, is able to "pack" four of these AGA pixels into one of its chunky pixels (8 bits apiece into the 32-bit chunky pixel area), and thus conserving RAM.

The display modes on the Spectrum are quite varied, and if the user wishes to define a new mode, the board can be programmed to do so with the included software. On the 2MB

version of the board, here are just some of the possible screen resolutions:

320 x 200 x 24-bit (16.7 million colors)
640 x 480 x 24-bit
800 x 600 x 24-bit
1024 x 768 x 16-bit (65,536 colors)
1280 x 1024 x 8-bit (256 colors)
1600 x 1280 x 8-bit

Even on a 1MB board, the options are still quite numerous, allowing up to 16.7 million colors in resolutions up to 640 x 480.

The software included with the board is powerful and extensive, encompassing utilities to define screen mode, create custom monitor drivers, grab 24-bit EGS screens, edit the mouse pointer, modify the overall look and feel of the EGS screens, and even produce artwork with the included *EGS-PAINT* program. The paint program shows promise with its excellent emulation of airbrush techniques, its speed, and its flexibility in regards to having many different pictures open at once, each in its own window for easy transfer of information. But it is lacking in some areas, most notably in its emulation of real-world paints. I am a veteran of *DCTV Paint*, and so I miss the ability to use watercolor and oil techniques within the program. I had a talk with a GVP representative about future upgrades to the program, and GVP apparently has big plans for *EGS-PAINT*. How does a paint program on par with *Fractal Design Painter* sound? Well, it sounded pretty good to me. *Fractal Design Painter* is a program for the Mac that emulates real-world painting and drawing media.

Although the board is one really amazing product, I did have some problems getting the software to work correctly. After a few calls to the GVP tech support line, I was able to iron out problems in a flash. I would like to comment on the almost incredible tech support of GVP. It is no wonder that this company excels in the Amiga market; they support their customers. Because of their attention to detail, great software, magnificent display capabilities, overall graphics power, and solid support, I would recommend the Spectrum board to anyone who is serious about Amiga graphics; you won't be disappointed.

Requirements: ZORRO II/III Amiga with AmigaDOS 2.04 or later
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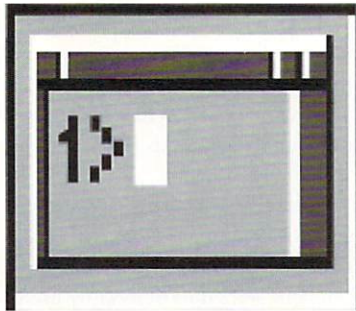
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Circle 131 on Reader Service card.



cli by Keith Cameron directory

AmigaDOS has made a bundle of changes since its inception. For those of us who learned the ropes on the old CLI, the newer Shell may still hold some secrets we haven't learned about yet. I spent my high school years working in garages in my small hometown, and I learned quite a bit about cars. But as cars developed and electronic ignitions and other developments became standard, I failed to learn about these changes. As a result, today I just drive my car and send it to the shop when repairs become necessary because I don't know how to deal with these new developments. The same is true with computers. Sometimes it becomes necessary for us to learn about new developments. If we don't keep up with these changes, we may become as helpless as I have been with cars. I must admit that I am reluctant at times to make changes. With this in mind, I'd like to take a close look at the Shell and how it really works.

Let's begin with punctuation and other characters that are used in AmigaDOS. I'll not bore you with the use of the colon and the slash. If you are even attempting to use the command line, you must be familiar with how these two items are used. However, you may not be familiar with the use of the asterisk, the back apostrophe, and the semicolon.

The asterisk (*) is used to refer to the contents of the current window. If you wish to copy the contents of the current window to a file, for example, you would use the asterisk in the command line as follows:

```
COPY * TO FILENAME <RETURN>
```

Once you execute the above command, the prompt will not appear on the next line of the Shell. You can then type in any text that you wish. When you have finished, press Ctrl\ and control will return to the Shell and your copy will be complete.

How is such a command useful? Perhaps while you are working from the Shell, you need to make some brief notes. This will allow you to do so. When I work on my column, for example, I test everything from the Shell in every way I can think of. Rather than write my findings down by hand, I would much rather continue typing, so I use this frequently. Later, I print my file(s) out for use when actually writing my article. If the notes are long

enough, I just incorporate them into my article. A word of caution is necessary here. Ctrl/ as mentioned above is also used to close the Shell window. Thus, if you were to press this key combination twice, you would effectively stop copying the contents of the screen to another file *and* close the Shell window. No big deal, but it could be frustrating.

Another punctuation mark I have only recently discovered is the back apostrophe, located above the tab on most keyboards. When placed within a string, it allows a command to be executed. This is best explained by use of an example.

```
ECHO "The date and time is 'DATE'." <RETURN>
```

When executed, the material within quotation marks will appear with the current date and time replacing the word "DATE." Although such a command might not be very useful in the day-to-day work you perform in the Shell, within scripts it can be highly effective. You can use this technique to produce directories of drives, listings, and other valuable information.

Have you considered changing your startup-sequence, but you were afraid to delete anything because you might not be able to get it back? If you learn to use the semicolon (;) effectively, this shouldn't be a problem. On a command line, anything that appears to the right of a semicolon is ignored by AmigaDOS. So, if



there is a line in the startup-sequence you want to do without, instead of deleting it, just place a semicolon before it. Then, if you find that the line is necessary, all you need to do is remove the semicolon.

Another way you can use this punctuation mark is in writing script files. As you write a line in a script file, you can make comments about the line by using the semicolon. At the end of the command line, just type in a semicolon and then you can comment about a code word you use, what you are trying to do in that line, or anything else. If your comment requires an additional line, don't worry. Just go to the next line, but remember to begin the line with a semicolon. It is also helpful to indent the comment in order to line it up with the previous comment.

Did you know that you can copy and paste from the Shell? You can. There are some limitations, but still, this is a nice development for the Shell. First, let's consider the limitations. You cannot copy from the Shell and paste to your favorite word processor. According to my manual, you can only copy and paste from one console window to another console window. Now, what is a console window? In layman's terms, it is a window that does not allow graphics, such as icons; it only accepts text. So, what is a console window. Well, your Shell certainly is. So are most text editors.

However, suppose you want to get a directory listing of a drive and place a copy in a document you are preparing on a word processor, which is not a console window. For example, I teach an informal class in my small town one day a week to adults who have little computer experience. I want my documents to look nice, so I want them produced on my word processor so I can use a variety of fonts and sizes as well as incorporate graphics from time to time. One of the first subjects I tackled was trying to explain the directory tree to them and the use of pathways. I wanted to reproduce several directory trees for them and incorporate them with other information on my word processor. However, I didn't want to have to type the listings in. Here's how I did it.

First, I produced my directory listings in the Shell. I copied them and then put them into my text editor. I then opened this file on my word processor and reformatted. That's all there is to it. So even though there are some restrictions, a little ingenuity can get around these simply enough. Now let's look at how to actually copy and paste in the Shell.

The only time you get to use a mouse in the Shell is when you copy and paste. Yes, I know you can close the Shell with the mouse, resize the window, etc., but you really aren't working *in* the Shell when you do such things. Decide which text you want copied, then use point-click-and-drag to highlight the text just as you would in a word processor. After you highlight the text, press the right Amiga-C combination to copy the text; this is the same keyboard shortcut that most word processors use. Next, move to your other console window. It helps to already have this window open somewhere; however, this isn't necessary, as the copied material is in the computer's memory. Select where you want the text pasted, click on that spot, and then press the right Amiga-V combination to paste the material; once again, this is the same keyboard shortcut for pasting that most word processors use. That's all there is to it.

Have you been making use of your Shell's command history?

If not, you should be, for it can save a considerable amount of typing. Every time you type a command in at the prompt, that command is stored in the command history. This means the computer will remember each command. There is a limit to how many commands the computer can remember. In fact, there is a 2K command-line buffer, so the number of commands recalled will depend on the length of each command.

To view the contents of your command-line history, use the up or down cursor (arrow) keys. The up cursor will move backwards through the history. That is, your most recently used command will appear first, then your second most recently used one, and so on. The down cursor will move forward through the history.

The nice thing about this command history is that you can edit previously used commands. That is, you can use the right and left cursor keys to move within the command line, change a letter or two (or as many as you wish) and then re-execute the command. On the IBM I sometimes use at work, this is not possible. As you use the cursor keys to move into a command line, characters are erased. This small difference can really be aggravating. Also, it seems that before MS-DOS machines can use such a history, a command has to be executed. On the MS-DOS machines I use, which run DOS 6.x and Windows 3.1, the F3 key will show the most recently used command. To go further back into the command history, the DOSKEY command must be executed. I'm not trying to run down MS-DOS machines; I use them quite a bit every day. However, these features certainly make me appreciate what my Amiga can do. I can't understand why this feature isn't standard on other machines. Most MS-DOS users resort to installing this command in their AUTOEXEC.BAT file, which is their equivalent of our STARTUP-SEQUENCE file. Seems like a lot of work to do something that comes natural for us.

This bit of information should demonstrate the changes that AmigaDOS continues to make.

Try using these features if you haven't before. I especially encourage you to work on using the back apostrophe in a script file of your making. Since several of the last few columns have dealt with script files, you should find this easy to do.

•AC•

Please Write to:
Keith Cameron
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140



bug bytes

by John Steiner

tips

hints

workarounds

suggestions

updates

fixes

Math Co-processor for A4000/30

Dave Berard of Calgary, Alberta, sent e-mail regarding the installation of a math coprocessor in the A4000/30.

Is it possible to put a math coprocessor chip in the Amiga4000/030? If so, is it a PLCC or PGA type chip?

Our local Amiga service center has not yet received A4000 service documentation, and their service technician could not answer that question. Comments, anyone?

Ethernet and the A4000

Roland W. Fox sent e-mail via Portal. He writes:

Our company purchased an Amiga 4000 with the A2065 Ethernet card and the TCP/IP for AmigaDOS back in December 1992. Running Version against the modules identifies this version as 36.1. When I called Commodore to find out if this is the most recent version, Commodore sounded as though they didn't even know they sold anything like that! Likewise, I never heard from them again after they said that they would check into it for me.

Now that SANA II is out for Ethernet adapters, is the A2065 SANA II compatible and would I be able to share the A2065 with other network protocols like the Interworks ENLAN-DFS? Also, is 36.1 the latest and greatest of the TCP/IP versions available, or should I try and buy a new copy of this in the hopes that I can get an up-to-date version?

How about it, Ethernet users? What other networking issues have you discovered as you have endeavored to link your Amiga systems?

Workbench 1.3 vs 2.1 Startup Sequences

Thanks to everyone who wrote regarding their particular startup sequences and their solutions to starting under either 1.3 or 2.1 Workbench. I received so many different possible startup

sequences that I don't have room to print them all here, but one of the shortest and easiest was submitted by Ian McKay via Portal e-mail. He writes:

I also use 1.3 and 2.1 and this is the best way I have seen, and use it to have the startup "know" whether it is 1.3 or 2.1.

```
failat 26 dh0:cc/setpatch >NIL: (this is the 2.1 !!!
setpatch) if error echo "Not 2.1" execute
s:startup-sequence1.3 else execute
s:startup-sequence2.0 endif
```

That's all there is to it. The 2.0 setpatch will let you know whether you have the 2.0 or the 1.3 ROM active. This method is simple and fast, and everybody can use it.

Multi-Start ROM Switcher

Mark Odell wrote with a specific answer to our reader's question about the Multi-Start ROM Switcher as follows:

Mr. Vogelpohl should begin by trying the Startup-Sequence replacement file given on page 13 of the MultiStart manual. I have never heard that it wouldn't work under WB2.1. In fact, I'd like to know exactly how the startup files he has found "do not seem to work".

Here is my replacement Startup-Sequence file based on DKB's original:

```
DH0:Workbench1.3/c/Assign TO: DH0:Workbench1.3 ; modify above
"DH0:Workbench1.3" references to point to your system's ; WB1.3-storage
directory TO:c/Version >NIL: graphics.library 37 TO:c/If NOT WARN ;then
WE ARE IN KICKSTART 2.0
TO:c/Assign >NIL: TO: Execute
s:Startup-Sequence2.0 Quit
Else
;then WE ARE IN KICKSTART 1.3
TO:c/If EXISTS TO:c/MoveSYS
TO:c/MoveSYS cd TO: ;FF 429 Else
TO:c/Assign c: TO:c
Assign SYS: TO: Assign
devs: SYS:devs Assign
fonts: SYS:fonts Assign
l: SYS:l Assign libs:
SYS:libs Assign s:
SYS:s
EndIf Assign TO: Execute
s:Startup-Sequence Quit
EndIf
```

It works. However, if it turns out that there is a problem with WB2.1, then he should call DKB Tech Support at 313-960-8750.

Delayed Power Up Software Bundles

In "Bug Bytes," V8.12, I asked for details from those who might have not yet received their software bundles that were packaged with their new Amiga computers. This came about because Roger Dooley had not yet received his bundle. Roger wrote in early November that he had finally received his bundle. As of this writing, there were only two responses to that request.

Royce Hesley sent e-mail via Portal. He writes:

I saw the comment about Roger Dooley in your column in the December issue of Amazing Computing. Just wanted to let you know I was in the same boat until last Wednesday (Nov 3), when I got my Power Up software; in fact, the promised version of Final Copy was 1.3, but I received Final Copy II, release 2.

Scott Horan of Mr. Horan's Computer Lab in Louisville, KY, faxed information about a customer of theirs who bought an A1200 on March 30, and as of November 12 had not yet received his bundle. As this is being written in mid-November, it would appear Commodore is finally stocked up on its promotional bundles, which are now shipping. I hope that Mr. Horan's customer will have gotten his bundle by the time you read this.

The Amiga and the DeskJet 500C

Regarding the HP Deskjet 550C information request from Bill Davis in the 9.9 issue, in addition to the company I mentioned in the column, Mark Odell of Sunnyvale, CA, recommended:

A 6-foot parallel cable specifically for the Amiga 1000 (part number 1-42) is made by:

Interex Computer Products
2971 South Madison
Wichita, KS 67216
316-524-4747

There is a file floating around the boards called 'DJ500C.LZH' or similar, described as a DeskJet 500C color driver, which might be worth a try. It is also on Smith Disk #376, available for \$3.25 from:

Jerry Smith
PO Box 5216
Fresno, CA 93755

AdPro and HP Deskjet 500C

Ken LePage of Wethersfield, CT, writes with a problem regarding *Art Department Professional* and the HP Deskjet 500C. He sent a sample picture that demonstrates the problem: 3/8-inch white bands going through the width of the picture are inserted after every inch or so of image. He did not mention contacting ASDG technical support, but he did comment that he purchased the "special driver for the HP500C."

I don't know which driver he refers to; however, he might try the driver that Mark Odell mentioned if that is not the driver he is using. ASDG also has excellent technical support, so they should also be contacted for assistance.

High-Density Drive Installation

From Mark Odell:

CBM has shipped two models (so far) of high-density drives: Chinon FB-357A (for the A3000) and Chinon FZ-357—for the A4000 but it will fit in the A2000. If users can find these from a source other than CBM, they should work without a hitch; however, check both the bezel and the style of eject button for proper fit.

GVP PC286 card

In the V.8.6 issue, Juan Nunez had questions regarding his 286 card. Assuming he has already contacted GVP technical support, and they were unable to assist with specific questions, Mark Odell suggests:

Since this product's OEM is vortex GmbH—the software is the same as that which comes with vortex's ATOnce boards—he could also try leaving a message to vortex's tech support at:

Compuserve - 100015,330
Internet - 100015.330@compuserve.com

CDTV Questions

Michael Blakely of BYU-Hawaii writes with questions regarding his A3000 and CDTV. He wants to know (1) if it's possible to install a hard drive onto the CDTV. (2) how much RAM can the CDTV support? (3) if the CDTV can be accelerated? (4) what options are available? (5) if it's possible to attach the CDTV to the A3000 so it can access the CD-ROM.

1) I have not seen any advertisements for third-party add-ons, and Commodore doesn't appear to have one listed in their CDTV product guide.

2) I don't know the total available memory map; however, there are personal RAM modules that can plug into the unit. Ask a Commodore dealer about capacity and availability.

3) Not from any Commodore product. Any third-party solutions?

4) Check with a Commodore CDTV dealer for the list of CDTV options; there are too many to list here. The most useful add-ons in my book would be an external floppy drive—any Amiga-compatible floppy drive works here—and a keyboard-mouse kit, available in matching black color scheme. Both of these products should be available through an Amiga/CDTV dealer.

5) If you get an external floppy drive, you can boot from a Workbench diskette, and if you obtain PARNET, a shareware program you can find on Amiga BBS systems, and a standard I/O cable to connect between the two systems, you can network the two units, thus making the CDTV's ROM drive accessible as a separate volume on the A3000.

GVP/Supra conflict

Also in the June issue, Mario Aguilar asked for assistance with his system. In addition to my suggestion, I asked for input from readers. Mark Odell commented on his problem. Mark writes: *Since no mention was made of recourse to a service center, I gather that Mr. Aguilar was trying to solve this problem by himself without the aid of anyone tech-qualified on the Amiga. I recommend strongly that Mr. Aguilar take his system to an Amiga service center and find out which product is causing the conflict.*

The service center he chooses could start by:

- 1) cleaning all the edge connectors very thoroughly with 91% isopropyl alcohol and a cotton swab;*
- 2) making sure that the bootable partition's BootPri is set to 0, and the non-bootable partitions' BootPri are set to -128;*
- 3) making sure that all partitions' Mask values are set to 0x7FFFFFFE;*
- 4) making sure that all partitions' MaxTransfer values are set to 0xFFFFF (I recommend having this done only by a service center that knows how);*
- 5) removing the Supra board, installing the 8MB of SIMMs as recommended by GVP, and trying it with Quarterback Tools FIND UNREADABLE BLOCKS option;*
- 6) removing the 8MB of SIMMs, installing the Supra board, changing the FaaastROM version as recommended by Supra, and trying it with QBTools again.*

Blue Chip Printers and the Amiga

Paul Corchado of Far Rockaway, NY, writes with a question about the use of his Blue Chip M120/10 printer with an Amiga 500. He is using *Final Copy* and wants to make use of the printer, but does not know which printer driver to use.

I am not familiar with this specific Blue Chip printer model; however, I am familiar with the product line, and though they are not manufactured any more, I know of several that are still in use. All of the Blue Chip printers I am familiar with are Epson-emulation based, so I would try the EpsonX driver as it would

(continued on page 36)

CanDo: An Interactive Authoring Tool

Part 6: Using AnimManager

by Randy Finch

If you have an ANIM file that you would like to play from within *CanDo* and you do not need to move it around on the screen as you can a *BrushANIM*, then *AnimManager* is the ticket. *AnimManager* is an AmigaDOS program included with *CanDo* that plays an ANIM file with full double-buffering so there is no double-imaging problem. *AnimManager* has an ARexx interface that allows *CanDo* to communicate with it and control it via commands.

Listing 2 is a *CanDo* deck, entitled *ZPlayAnim*, that uses *AnimManager* to play the original ANIM file of the math function stretching and contracting. The first thing that has to be done in the program is to establish ARexx communications with *AnimManager*. This is accomplished in a global routine called *Communicate*.

Establishing Communications

The first thing that the *Communicate* routine does is set up an ARexx port that the *ZPlayAnim* deck will listen to in order to receive information from *AnimManager*. I named this port *ANIMFrameEvent*. Next, the program tries to find *AnimManager*'s ARexx port named *AnimRexxPort*. If this port cannot be found, then *AnimManager* is not currently executing and an error condition ensues. The *IfError* statement traps the error and then attempts to load *AnimManager* with the DOS command. Notice the *-t* option on the command line. This parameter tells *AnimManager* the name of the ARexx port it should speak to. A loop then executes wherein attempts are made to locate *AnimRexxPort*. If it is not found, the *CanDo* program is stopped. If it is found, the program continues.

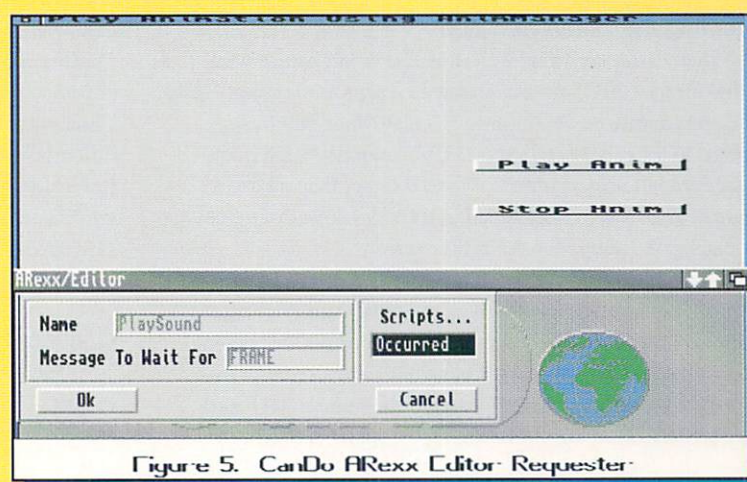


Figure 5. CanDo ARexx Editor Requester

Commanding Through ARexx

The first command sent to AnimManager is QuickLoadAnim. This command directs AnimManager to load an ANIM file. The filename is a parameter of the QuickLoadAnim command.

QuickLoadAnim loads an ANIM file in such a way that it can only be played in a forward direction. If you want to load an ANIM file such that it can be played forwards and backwards, the LoadAnim command must be used. However, the loading time is longer since the format of the file has to be converted as it is loaded.

Next, the string variable Q is equated with a quotation mark. Note that the first quote indicates that a string constant follows. The next two consecutive quotes indicate that a literal quote is part of the string. Finally, the fourth quote indicates the end of the string constant. Q is used to embed a quotation mark in ARexx command strings. Two additional string variables are assigned; then two more commands are sent to AnimManager. Each is a SetFrameMark command. This command tells AnimManager to pass a message back to the CanDo deck when a particular frame of the animation is displayed. The first parameter of the

pausing, stepping through the animation one frame at a time, and playing the animation in reverse order or in ping-pong mode. The latter two commands are only available when the ANIM file is loaded with LoadAnim rather than QuickLoadAnim. Be prepared to click on the animation screen before you press any control keys because even though the animation screen appears on top of all other screens, it is not the active screen until you click on it. Also, I discovered that if you press the key to play an animation in ping-pong mode when QuickLoadAnim is used to load it, then no other control keys will function except the ESCAPE key which exits the program.

Next, an AddButton command is sent to AnimManager. This command specifies that an invisible button should be added to the animation screen. AnimManager is told to send the message ClickButton to the CanDo deck when the user clicks within the region of the button. The button begins at the upper left-hand corner of the screen (0,0) and is 50 pixels wide and 50 pixels tall. This button lets the user quickly exit AnimManager—there only

The first thing that the Communicate routine does is set up an ARexx port that the ZPlayAnim deck will listen to in order to receive information from AnimManager. Next, the program tries to find AnimManager's ARexx port named AnimRexxPort.

SetFrameMark specifies the message to be sent back; the second parameter specifies the frame number at which to send the message. My program needs to know when frames 20 and 40 are reached in order to play the Boing sound. The message to be sent back at frame 20 is "Frame 20." The message to be sent back at frame 40 is, you guessed it, "Frame 40." In each of these messages the word Frame is the message, while the 20 and the 40 are parameters.

Executing the ZPlayAnim Deck

When the ZPlayAnim deck runs, the BeforeAttachment routine for the card PlayAnim executes. This routine simply calls the Communicate global routine. The PlayAnim card looks identical to the card used in the ZPlayBAnim deck described earlier except it uses a Normal Window rather than a Picture Window. The latter is not needed in this deck since AnimManager will display the animation on its own screen.

When the button labeled "Play Anim" is pressed, the Communicate routine is executed just in case AnimManager is no longer running. Next, the command "KeyControls On" is sent to AnimManager. This tells AnimManager to allow the user to control the animation playback using the computer keyboard. There are keys available for changing the speed of playback,

for instructional purposes since the ESCAPE key works just as well.

Finally, the "Play Forward" command is issued to get the animation started and a flag variable AnimButton is set to FALSE. More about AnimButton later.

Synchronizing Sound

Because AnimManager was instructed to send the message FRAME back to the CanDo deck whenever frames 20 and 40 are displayed, an ARexx object needs to be added to the card (Figure 5). This object is named PlaySound. Since the same sound is played at both frames 20 and 40, the parameter that is passed along with the FRAME message does not need to be checked. If different sounds were to be played for the two frames, then the frame number parameter would have to be checked to determine which sound to play. The ARexx object added to the PlayAnim card simply waits for an ARexx message of FRAME and then executes the PlaySound command. What could be simpler?

Quitting AnimManager

There are several ways to exit AnimManager. One is to press the ESCAPE key. This will only work if the "KeyControls On" command has been issued to AnimManager.

Another way to exit AnimManager is to switch to the CanDo card and press the "Stop Anim" button. This causes the OnRelease event script for the button to execute. It sends a "Quit" command to AnimManager.

The third way to exit AnimManager is to press the invisible button created with the AddButton command. This causes AnimManager to send a ClickButton message to the CanDo deck. This message is detected by another ARexx object named CheckQuit. When the message is received, the AnimButton flag is set to TRUE. "Why not just send a 'Quit' command to AnimManager at this point?" I hear you asking. Good question. This is the way I originally tried it. Whenever I clicked on the invisible button, the animation froze, and I could not do anything else. CanDo was frozen, also. However, other applications continued to work fine. It seemed as though ARexx communications had fouled up somehow. But what good does just setting a flag variable to TRUE do? Well, none unless you have a routine checking for AnimButton to be set to TRUE. Therefore, I added a Timer object (Figure 6) set to execute once a second. Each second, the value of AnimButton is checked. When it becomes equal to TRUE, AnimManager is sent messages telling it to push its screen to the back of other screens and then quit. The screen must be sent to the back before quitting or the program will freeze up as described earlier. Occasionally, AnimManager would freeze up using the technique shown in Listing 2; however, it was rare. The other methods caused a freeze-up 100 percent of the time.

Closing Comments

I hope you have learned a lot from the previous exercises. I know I have. Animation and sound can be a lot of fun. It is always exciting to see an image you have created moving about on the computer screen while sounds emanate from the speakers. There is much more that CanDo can do with animations and sound, but it would take too much space to cover it all in one article.

If you have any applications created with CanDo that you would like to share, please send them to me care of *Amazing Computing*. I will be interested in looking at them.

In the last installment, I mentioned that CanDo 2.51 requires commercial developers to have a license to distribute a custom runtime system provided by INOVAtronics. I have received more information about this. The yearly license fee is \$50 to \$200 depending on the type of applications distributed. The license can apply to single or multiple software titles.

I plan to discuss creating *AmigaGuide* help files in the next installment.

[Editor's Note: Since Part 5 and Part 6 of the CanDo tutorials are so closely related, we have repeated both listings in this issue. Listing 1 pertains directly to Part 5 and Listing 2 pertains to Part 6.]

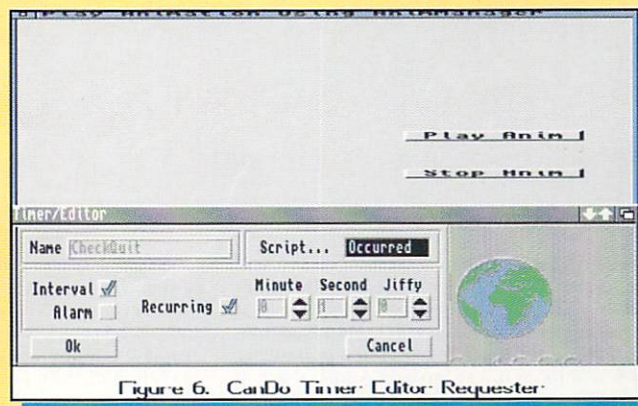


Figure 6. CanDo Timer Editor Requester

Listing 1

Listing 1. CanDo Deck For Playing A BrushANIM

```
*****
* Deck "ZPlayBAnim"
* Time 20:58:25
* Date 09/26/93
*****

*****
* Card(s) in deck.
* Card "PlayBAnim"
*****
* 1 Card(s), 1 were printed.
*****

*****
* Natural order of Cards
* Card "PlayBAnim"
*****

*****
* There are no Global routines in this deck.
*****

*****
* Card "PlayBAnim"
PictureWindow "UserWindow"
Definition
Origin 0,0
BackgroundImage "CanDo:Anims/SIN(X*Y)-40.pic" ; size and depth comes
from image
Title "Play Brush Animation (Full Size)"
WindowColors 0,1,0 ; Detail, Block, Background
WindowObjects CLOSEBUTTON
WindowFlags ACTIVATE SEPARATESCREEN TOFRONT
EndScript
OnCloseButton
Quit
EndScript
EndObject
TextButton "PlayBAnim"
Definition
Origin 200,138
Font "topaz",8 ; FontName, PointSize
```


AC Exclusive:

An Interview with Lou Eggebrecht

Vice President of Engineering, Commodore International



At first glance, you may wonder where you have seen Lew Eggebrecht before. The slight smile and quiet manner puts most people at ease immediately and he maintains this composure either in a one-to-one interview or standing before a room full of anxious Amiga users. It takes a second, and then you see the resemblance between Commodore's chief visionary for the Amiga and the veteran character actor, William Schallert. William Schallert is the actor who has played on almost every situation comedy in the last 40 years from Patty Duke's father to Murphy Brown's high school journalism teacher. Like Schallert, Lew must remain just as versatile in his tasks.

Mr. Eggebrecht is responsible for all development for Commodore. His staff includes Commodore's design engineers and its development support group, CATS. His expertise must cover the Amiga 4000, 1200, CD32 and beyond in every country and market in which the Amiga competes. He must not only know where the Amiga is today and where it should be tomorrow, but he must know what the Amiga's competition is doing and where the entire industry is heading.

Lew is a long-distance commuter. Some of his time is divided between working from his home in Colorado and at his office at Commodore in West Chester, PA. The balance of his time is spent traveling around the world to encourage developers and solve problems. His Colorado office offers him some time with his family and an opportunity to discover a different perspective to the challenges he faces every day.

Just 40 miles from Denver, the Eggebrecht residence sits at the end of a dirt road with nothing but space and animals for neighbors. When not engaged in boardroom presentations, developer negotiations, or promoting Commodore, he polishes his skill at skiing or he improves his patience by fishing.

We were fortunate to be able to talk with Mr. Eggebrecht during the recent World of Commodore in Toronto where he delivered a keynote speech on the future developments of Commodore and the Amiga (please see the companion article on page 57 of this issue).

AC: Are you part of the visionary team for CD³²?
Lew Eggebrecht: I hope so. There are many good people with good ideas. We all work together to try to come up with the best solution for next-generation products.

AC: What can we expect from CD³²? Is it just a game machine?

L.E.: We want to focus it as a game machine, but not limit its capability. Even though it has a lot more capabilities as a general purpose multimedia interactive player, we have focused on games.

We learned this with CDTV; if it does everything, then people don't know what it's for. If we focus on games, people understand it. They will also discover that it plays audio disks, CD+G, Video CD standard, and Video CD-i digital CD standard; it can be used in kiosk appli-

cations, and that there is a full Amiga operating system with expansion capability built in.

Developers will understand the hardware and see other opportunities. We have several people who are building kiosk applications with CD³². It is literally taking over those applications targeted for CDTV. In reality, if we were to capture the mass market, we had to focus on games.

AC: Speaking of expansion, since CD³² is essentially an Amiga in game clothing, is Commodore planning to build expansion products such as keyboards, disk drives, etc., as with CDTV?

L.E.: We are not planning on making it into an A1200. We think that this would harm the 1200 market and build a machine that is not as competitive as a 1200. We think there are two markets, the home computer, personal productivity-type machine with video capabilities such as the 1200, and then there is the true game machine. Users have to decide which one they want. Building one machine that does everything, which was the CDTV, was not successful. We are trying not to make that mistake again.

AC: I'm sure 1200 and 4000 users would like CD³² capabilities. Is there some way for this to happen and when?

L.E.: Providing CD-ROM drives in the future, allowing them to take advantage of CD³² software, is a possibility.

When is more of a marketing question than a technology question. We have done extensive technology development in adapters for the 1200 and CD³²; it is pretty easy to do, actually, because we designed the AKIKO chip so it could operate in either environment. Building a CD-ROM drive for the 1200 or 4000 is straightforward from a technical standpoint.

AC: So, technologically, you are all set to go?

L.E.: We have tooled the case, we have the drives, and the electronics are done. Some additional software development work is necessary to complete the project.

AC: In the future, are you looking at what Apple and IBM-PC have done with a CD-ROM-based machine? Will there be a future CD-based Amiga?

L.E.: That is a definite possibility. We would need a different drive because the drive we have now is a top-loading drive and is therefore an external drive and would not fit into a 5-1/4" slot. We would have to re-package our mechanism into a 5-1/4" slot to do that—something that we could definitely do.

AC: Do you feel pressure to create such a platform?

L.E.: Not really, because people who want that type of drive want a SCSI drive and are not worried about playing CD³² software. So they get a standard file system, something that they can do today by buying an external drive with a SCSI adapter and have a CD-based product.

AC: Can the SCSI-based CD-ROM drive read Photo CD?

L.E.: Absolutely, if it is a multisession CD-ROM drive.

AC: We have the software to interpret it?

L.E.: Not yet, we have recently negotiated terms on a license. We have not signed a license yet; but our intent is to provide Photo CD and we are currently working on a player that will be available for CD³² and the Amiga.

AC: Any idea when we will see it—or is this a marketing question?

L.E.: No, it's an as-soon-as-we-get-it-done type thing. We have just assigned dedicated people to the project recently.

AC: Do you feel that this holds you back?

L.E.: Well, having a multimedia machine without Photo-CD does not make a lot of sense.

AC: Would the release of the AAA chipset next year affect the CD³² market?

L.E.: We have never planned on implementing the AAA chipset in the game machine.

AC: So the CD³² purchaser today would be pretty safe from obsolescence for quite a while?

L.E.: I am certain of that. One of the things you can't do is obsolete the software. In the consumer market, we want a piece of software to work forever. Changing the hardware would force developers to write to the lowest common denominator, and there wouldn't be any software to take advantage of the new features even if you put the features in. This may not be entirely true because a CD has such a large storage capability; it may be possible to enhance a CD³² in the future and have two versions of the software on the same disk, one that uses the features and one that doesn't.

AC: Are you working closely with the developers of software for CD³²?

L.E.: Yes, very closely. I have made many trips to the U.K. to assess the status and encourage the developers to produce a product in a timely manner, to produce language versions, and to produce NTSC and PAL versions. We have held four or five software publishers meetings where we go in and give the status of the product and try to show the latest development environments and make sure people have the latest development tools.

If they need technical support, we now have two new people in the U.K. who are dedicated to supporting CD³² developers. Keirn Sumner and David Pocock now spend nearly 100% of their time supporting CD³² developers. Plus we do a lot of remote support. I have also given a lot of effort to Chris Ludwig, who has spent most of the summer and fall in the U.K. directly supporting the developers.

AC: Without giving anything away...are the developers using the new enhancements?

L.E.: They are beginning to. The problem is to

develop titles that really use the CD and the AA chip set to its fullest. Plus, with the new feature of our chunky-to-plannar mode, it takes a fair amount of effort.

A lot of the titles we are seeing now are enhanced versions of titles that were done for the 1200. Some of them are very nicely enhanced with audio capability, more depth of play, more scenery. We are seeing a lot of that and that's fine because the pricing is still a great deal. We are also seeing a lot of titles ported from PC applications because of 256-color capabilities and the ease of being able to use the chunky pixel mode.

AC: In the system, is chunky-to-plannar automatic?

L.E.: It is not entirely automatic, you take eight pixels display information and write it to a memory location. When you read it back, it is already in the plannar mode and therefore it does the conversion of taking information that is normally packed in one byte and taking eight of those bytes and then distributing them to eight different memory addresses.

AC: Will we see involved virtual-reality type games coming out?

L.E.: Yes, some of the games are beginning to use the capabilities of the machine. *Microcosium* by Psygnosis is a good example where you have a lot of scenery and 3-D effects and they are really showing off the performance of the machine. Virtual reality requires more than just graphics; you need headsets and hand sets and motion detectors; you really need a theater-type environment.

AC: Is that coming?

L.E.: Yes it will come, but I don't see it as cost effective. There are two ways that people are viewing VR, one is with headsets, goggles, and gloves; and the other is as a virtual reality theater. In other words, a room in your house that is set up like a holodeck as portrayed in *Star Trek*. There are two views in the world on how to do that and research is progressing in both ways. However, there will be a lot of incremental steps. True virtual reality will take another leap in technology.

AC: We are seeing headsets and such being used on the Amiga. Can these be easily ported to the CD32?

L.E.: Yes, definitely. Most of the W Industries packages, which are the commercially-available arcade versions, are based on the A2000, for example. They are not even using the latest in Amiga chipset technology.

AC: Are we seeing any other software development outside of games?

L.E.: We are seeing a lot of software development in the video production area, new versions of paint programs for specific graphics adapters, RTG support for 24-bit graphic cards. We are seeing a lot of development in the video markets. We are not seeing a lot of development in the productivity area, which has traditionally been our weakest point.

AC: We are talking about the entire Amiga platform?

L.E.: Yes, from the Amiga standpoint, mainly video applications. From the CD³² standpoint, it is mainly CD-based games.

AC: How about CD-based education applications?

L.E.: There is some work going on in education. Basically, the market breaks into platform games,

adventure games, simulation games, and sports games. There is a lot of activity in all these areas. The Amiga has always been strong in higher-end games due to the resources available, such as more memory, as compared to Sega and Nintendo.

With respect to reference materials, we have shied away from that, although most of the CDTV reference materials work on the CD³² such as *The New Grolier Electronic Encyclopedia*, *THE Guinness World Book of Records*, the Insight series, all work on the CD³² and are available. Our experience has shown that no matter how good the material, it is not a big market. However, there is nothing stopping development in this area and we have managed to upgrade some titles such as *Guinness* and *Grolier* for CD³².

AC: As a side note... Compton's has won a new patent concerning multimedia. Are you familiar with this?

L.E.: Yes, I have seen a copy of this. I believe this is based on a more-or-less universal search engine for extracting information from CD-ROMs based upon various search algorithms. The patent is very long and very involved. I have seen similar search algorithms for hard drives, so I find it hard to believe it can be patented.

AC: Do you think this can be contested?

L.E.: Yes, I think it will be contested and will be successfully contested.

AC: Does the Amiga have anything to worry about?

L.E.: Not directly. We are not the ones liable. It would fall on the publishers of the software.

AC: Could it freeze up development of software?

L.E.: Possibly, but I suspect that since some big players are involved in PC software, which is much more reference-oriented than Amiga software, I suspect the big players such as Microsoft and others will go forward and end up fighting our battles for us.

AC: You mention that we are doing a lot of work in video. Do you feel that this is bad for the computer in the long run to be considered so one-sided?

L.E.: A few years ago I would have said yes because multimedia was not upon us. Now people are discovering that television is the place where everything is going to happen and that a computer that can deal with TV—and has the tools for dealing with applications associated with TVs—are having a new emergence. A couple years ago I would have said yes, that is a limitation; now I think it's a plus.

AC: Do you think that we have lost something because productivity software producers did not take advantage of the capabilities that a multimedia-oriented computer could provide?

L.E.: There are other aspects that were problems, such as having high-resolution low-cost monitors, high-capacity low-cost hard drives, lower-cost memory—all these things have made multimedia possible. It just so happens that we had a chipset that was way ahead that could do a lot more things, and can still do a lot more things than anyone else. So we still have an advantage. But what really has made this advantage useful, is that the other technologies are not holding us back, which allows us to take advantage of the capabilities of the chip set.

AC: Technologically, Commodore has never been better?

L.E.: Yes, I think that this is essentially true. The

information superhighway concept, interactive TV is refocusing the efforts from computers back to TV because there are 100 million TVs in the U.S. The Amiga is perfectly positioned to take advantage of this.

AC: But will it?

L.E.: We have been working hard with a number of potential customers to move the Amiga technology outside its traditional uses in the areas of set-top boxes that connect to the information superhighway and interactive TV concept. The chipset and the technology we have is perfect for that—the super low-cost TV capability and performance. We are pursuing this very vigorously to find a new home for Amiga technology.

AC: Are you well received?

L.E.: Yes, very well received.

AC: Do you ever have to defend the Amiga?

L.E.: No, you never have to defend the Amiga. It is amazing how many people are familiar with the technology and its capabilities. I don't get enough chances to thank the developers that stick with us and all the engineers for all the hard hours they put in to make CD³² a success, particularly the CATS organization, which has put in an incredible amount of effort assembling the bundle and demo discs, supporting the developers of CD³², and getting the product out. They have done a great job.

AC: Are there still CATS organizations in the other sales companies?

L.E.: We have ESCO which is European support. This is a small organization that basically funnel problem-reports back to us in the U.S. They do not directly handle developer support; most developer support comes directly from the U.S. CATS organization.

AC: What about developers who want to get involved in CD³²?

L.E.: There are 121 licensed developers for CD³². So it's not hard. We initially limited the number of developers to keep the support issue down, but that is no longer true. It's easy to get a developer's environment and license.

AC: Can you create a CD³² application with an A4000 and a large hard drive?

L.E.: Yes, you have an excellent development environment on the 4000—as long as you don't create an application that runs only on an '040. We have an '020 board the fits into an A4000 to help with development. We also have simulation programs that simulates CD-file performance on the hard drive. This helps the developer create an application with the proper performance level.

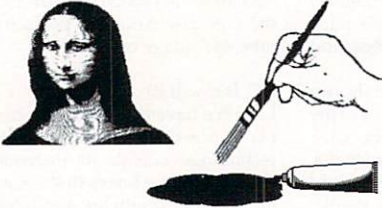
AC: What is Commodore charging to become a CD³² developer?

L.E.: You have to buy the de-bug board, which runs about \$200. And you have to sign the license that states when you publish a title, you have to pay Commodore \$3 for each disk sold, not produced, just the ones sold. The de-bug board allows you to download directly to a CD³² to run it directly, and it also allows you to access the registers, and so forth.

AC: What are the high points in your position?

L.E.: Well, we have some great products. We are doing some great things with both the AAA chipset and the follow-on to the AAA. Although our engineering organization is small, we are lean and mean and have a lot of fun.

•AC•



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```
PrintStyle PLAIN ,2,3 ; Style, Pen1, Pen2
TextColors 1,0,NORMAL ; PenA, PenB, DrawMode
Text " Play BAnim "
Border BEVEL ,2,1 ; BorderStyle, MainPen, ExtraPen
Highlight COMPLEMENT
ButtonFlags NONE
EndScript
OnRelease
ShowBrushAnim "CanDo:anims/sin(x*y)-40.banim",0,0
Let I=0
Loop
MoveBrushAnim "CanDo:anims/sin(x*y)-40.banim",5,0,0,0,10,QUEUE
MoveBrushAnim "CanDo:anims/sin(x*y)-40.banim",0,5,0,0,10,QUEUE
MoveBrushAnim "CanDo:anims/sin(x*y)-40.banim",-5,0,0,0,10,QUEUE
MoveBrushAnim "CanDo:anims/sin(x*y)-40.banim",0,-5,0,0,10,QUEUE
Let I=I+1
Until I=5
BrushAnims ON
EndScript
EndObject
TextButton "StopBAnim"
Definition
Origin 200,180
Font "topaz",8 ; FontName, PointSize
PrintStyle PLAIN ,2,3 ; Style, Pen1, Pen2
TextColors 1,0,NORMAL ; PenA, PenB, DrawMode
Text " Stop BAnim "
Border BEVEL ,2,1 ; BorderStyle, MainPen, ExtraPen
Highlight COMPLEMENT
ButtonFlags NONE
EndScript
OnRelease
BrushAnims OFF
EndScript
```

```
EndObject
BrushAnimFrame "BrushAnim_1-FRAME20_1"
Definition
BrushAnimBuffer "CanDo:Anims/sin(x*y)-40.banim"
Frame 20 ; The BrushAnim frame number
EndScript
Occurred
PlaySound "RCF:CanDo2.51/Sounds/Boing.snd"
EndScript
EndObject
BrushAnimFrame "BrushAnim_1-FRAME40_1"
Definition
BrushAnimBuffer "CanDo:Anims/sin(x*y)-40.banim"
Frame 40 ; The BrushAnim frame number
EndScript
Occurred
PlaySound "RCF:CanDo2.51/Sounds/Boing.snd"
EndScript
EndObject
BrushAnim "SoundSync"
Definition
BrushAnimBuffer "CanDo:Anims/sin(x*y)-40.banim"
EndScript
EndObject
* End of Card "PlayBAnim"
*****
```

Listing 2

Listing 2. CanDo Deck for Playing An ANIM Using AnimManager

```
*****
* Deck "ZPlayAnim"
* Time 20:58:48
* Date 09/26/93
*****

*****
* Card(s) in deck.
* Card "PlayAnim"
*****
* 1 Card(s), 1 were printed.
*****

*****
* Natural order of Cards
* Card "PlayAnim"
*****

*****
* Global Routine(s) in deck.
* Routine "Communicate"
*****
* 1 Global routines(s), 1 were printed.
*****

*****
* Card "PlayAnim"
BeforeAttachment ; used to be OnStartup
Do "Communicate"
EndScript
Window "UserWindow"
Definition
Origin 0,0
Size 320,400
Title "Play Animation Using AnimManager"
NumberOfColors 32,69636
WindowColors 0,1,0 ; Detail, Block, Background
WindowObjects CLOSEBUTTON
WindowFlags ACTIVATE SEPARATESCREEN TOFRONT
EndScript
```



```

OnCloseButton
  Quit
EndScript
TextObject
TextButton "PlayAnim"
Definition
  Origin 200,138
  Font "topaz",8 ; FontName, PointSize
  PrintStyle PLAIN,2,3 ; Style, Pen1, Pen2
  TextColors 1,0,NORMAL ; PenA, PenB, DrawMode
  Text " Play Anim "
  Border BEVEL,2,1 ; BorderStyle, MainPen, ExtraPen
  Highlight COMPLEMENT
  ButtonFlags NONE
EndScript
OnRelease
  Do "Communicate"
  SendMessage "KeyControls On"
  SendMessage "AddButton ||Q||ClickButton||Q||",0,0,50,50"
  SendMessage "Play Forward"
  Let AnimButton=FALSE
EndScript
EndObject
TextObject "StopAnim"
Definition
  Origin 200,180
  Font "topaz",8 ; FontName, PointSize
  PrintStyle PLAIN,2,3 ; Style, Pen1, Pen2
  TextColors 1,0,NORMAL ; PenA, PenB, DrawMode
  Text " Stop Anim "
  Border BEVEL,2,1 ; BorderStyle, MainPen, ExtraPen
  Highlight COMPLEMENT
  ButtonFlags NONE
EndScript
OnRelease
  SendMessage "Quit"
EndScript
EndObject
ARexxMessage "PlaySound"
Definition
  Message "FRAME" ; text to look for from ARexx
EndScript
Occurred
  PlaySound "CanDo:Sounds/Boing.snd"
EndScript
EndObject
IntervalTimer "CheckQuit"
Definition
  Duration 0,1,0 ; Minutes, Seconds, Jiffies
EndScript
Occurred
  If AnimButton=TRUE
    SendMessage "Screen ToBack"
    SendMessage "Quit"
    Let AnimButton=FALSE
  EndIf
EndScript
EndObject
ARexxMessage "QuitFlag"
Definition
  Message "CLICKBUTTON" ; text to look for from ARexx
EndScript
Occurred
  Let AnimButton=TRUE
EndScript
EndObject
* End of Card "PlayAnim"
*****

*****
* Global routine "Communicate"
ListenTo "ANIMFrameEvent"
SpeakTo "AnimRexxPort"
IfError
  Dos "run >nil: <nil: CanDo:CLIUtilities/AnimManager -tANIMFrameEvent"
  Let Timeout=50
  Loop
    Delay 0,0,10
    SpeakTo "AnimRexxPort"
    IfError
      Let FoundPort=FALSE
    Else
      Let FoundPort=TRUE
    EndIf
    Let Timeout=Timeout-1
    Until FoundPort OR (Timeout=0)
  Else
    Let FoundPort=TRUE
  EndIf
If NOT FoundPort
  Echo "Can't squawk with the AnimMan, man!"
  Quit
EndIf

```

As told by AC Tech #3.4 and Amiga World Aug. '93...

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```

SendMessage "QuickLoadAnim CanDo:Anims/SIN(X*Y)-40.anim"
Let Q=""
Let MessBack20="Frame 20"
Let MessBack40="Frame 40"
SendMessage "SetFrameMark ||Q||Messback20||Q||",20"
SendMessage "SetFrameMark ||Q||Messback40||Q||",40"
* End of routine "Communicate"
*****

```

•AC•

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—BUG BYTES continued from page 28

probably be the closest. Since you mentioned using the printer with your Commodore 64, it's possible that the printer emulates Commodore printers. If the EpsonX driver doesn't work properly, you could try one of the CBM drivers available and see if that works. Any other suggestions, readers?

Solution to Excellence! Printing in Draft Mode

Mario Vachon writes regarding a solution for printing in draft mode in excellence! Mario suggests:

The printing problem was corrected on my system by only using line spacing 12 (single space) or 24 (double space) while printing in NLQ or draft; graphic mode doesn't care, as you can select whichever line spacing you wish. Also worth noting: a line spacing of 18 should give one 1 1/2 line spacing but it never worked on any printers I ever tried. It is briefly noted in the manual that Topaz 11 is the font to use and that line spacing should be set to 12 for WYSIWYG purposes.

Problems with A3000 and CD-ROM Drives

In "Bug Bytes," V. 8.11, Fred Fritz of Xetec wrote regarding the NEC CD-ROM drives. He sent a follow-up letter with more information on the problem. He writes: *It seems that a number of users have been experiencing SCSI lockups when using CD-ROM with the Amiga 3000. A number of these users have isolated the problem to the SCSI chip inside the 3000. The correct (part) number on the SCSI chip inside your 3000 should be WD33C93A-PL00-08. Earlier 3000s might be using a SCSI chip with an '04, or it might even be labeled 'PROTO'. These are old SCSI chips and should be updated to eliminate the possibility of SCSI lockups.*

As you will recall, the topic we were discussing was the use of the NEC CDR-25. It would now appear that the problem Mr. Bastow was having could be related to the SCSI chip inside his 3000. We would recommend that all users who have CD-ROM on their Amiga 3000s have a qualified person inspect the inside of the computer to verify the version of the SCSI chip being used. An update should be obtained if needed.

HarmonySoft Software and Hardware Protection Support

HarmonySoft and Aladdin are cooperating in the development of Hardware Protection devices. The two companies have signed a contract in which Aladdin buys from HarmonySoft the relevant knowledge in order to add Amiga support to their line of products. This includes all rights for the hardware protection products HarmonySoft developed for the Amiga such as MemoHasp and SerialHasp.

All support and distribution of these products will be made by Aladdin. All bug reports and technical problems should be forwarded to them. Any requests and comments about protection schemes for the Amiga (as described in previous announcements of HarmonySoft) should be sent to Aladdin instead of HarmonySoft.

Also as part of the agreement, HarmonySoft will give any technical support needed in order to help Aladdin become an Amiga developer.

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 15 Beit Oved St.
 P.O. Box 11141
 Tel-Aviv 61110 ISRAEL

Phone: +972-3-537-5795 Fax: +972-3-537-5796
 E-mail (CompuServe) 100274,434

That's all for this month. If you have any workarounds or bugs to report, or if you know of any upgrades to commercial software, you may notify me by writing to:

John Steiner
 c/o Amazing Computing
 Box 2140
 Fall River, MA 02722

...or leave e-mail to

John Steiner on Portal
 73075,1735 on CompuServe

Internet mail can be sent to
 John_Steiner@cup.portal.com
 Fax John Steiner at (701)280-0764
 8:30a.m. to 5:30p.m. CT, Mon.-Fri.

•AC•

Putting Some *Flare* into Your Imagination

by Marc Hoffman

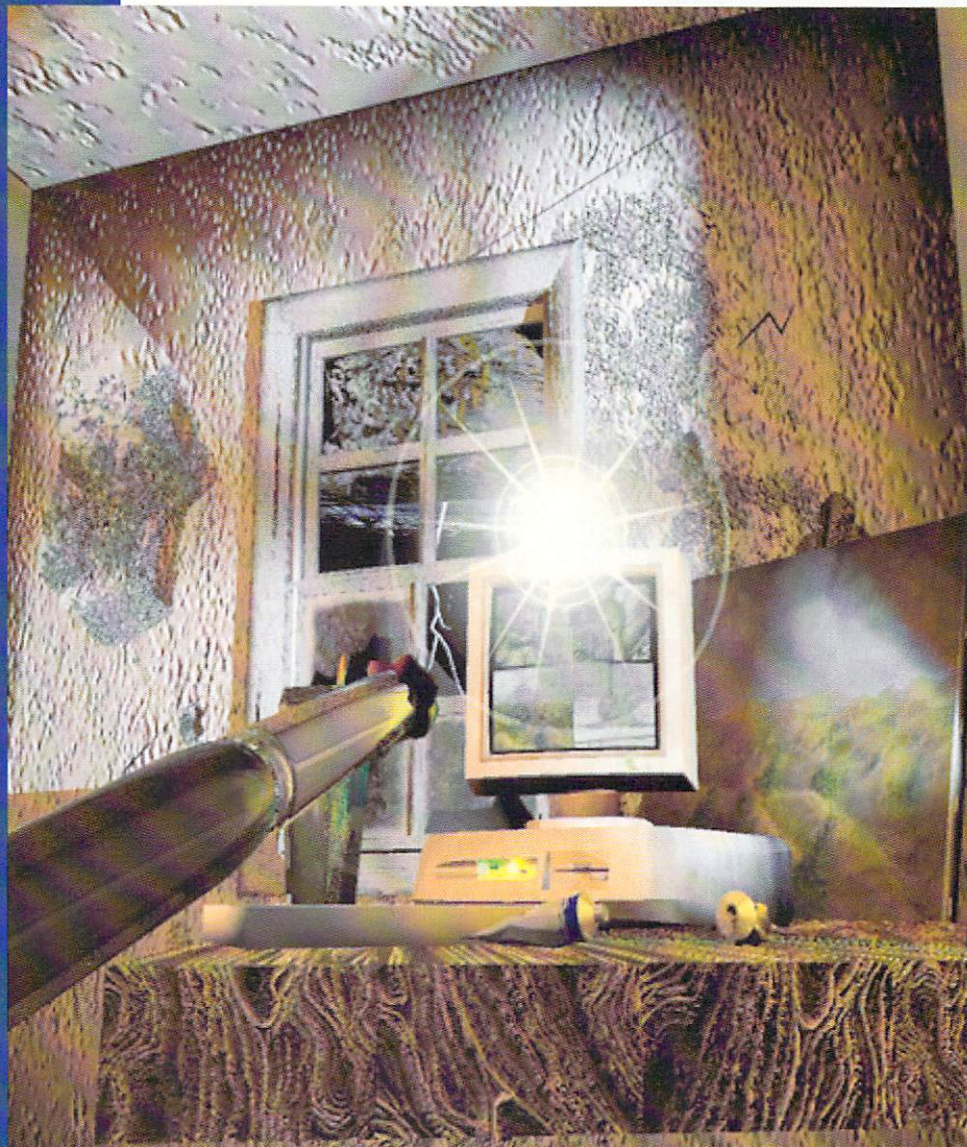
Remember for a moment, watching a movie where the director wishes to convey a sense of time passage. He or she may accomplish this with the camera tracking to the sun, sometimes through obstacles such as trees. The sun doesn't appear to be just a yellow sphere; instead, streaks emanate from it, and around the sun is a hazy glow. Or, if science fiction is the going thing, recall those pictures of the earth just barely masking out

the sun. Again, there is no yellow half-circle peeking out from behind the earth. Rather, the same effect of streaking and domination of haze pervades the picture. These are examples of lens flares, the formations that occur in places ranging from the above examples, using cameras, to that of the human eye, especially to those wearers of contact lenses.

Like almost everything else, lens flares can be simulated on the computer, especially in 3-D software. This tutorial is meant for those users whose software cannot handle lens flares directly, and it is centered on *Imagine 2.0*.

When observing a lens flare, note that for the most part, the flare is really nothing more than a distorted disc. So, in the modeling of the flare, the first step is to add a primitive disc. Go into the detail editor, choose Functions/Add/Primitive, and choose disc. For this tutorial I used a disc of 72 sections, and accepted the size defaults. The second step is to create the flaring action that this form will eventually exhibit. To accomplish this, choose the mode menu and select Pick Points. Next, go to the pick/select menu, select Pict Range, and indicate that Imagine should select every six points on the disc by typing 1, 73, 6. Once the points change color, scale the points outward by hitting the "S" key and dragging the mouse (Figure 1).

The next step is to alter the bases of the flares, so that they appear to "dip" into the main disc. To accomplish this, I used the magnetism tool. Go to the mode menu and select magnetism setup (Figure 2). In the Radius of Influence box, type in 7, select dome under Magnetism Type, and click in Use. Now, select mode/drag points and drag the midpoints at the base of each flare inward toward the center of the flare;



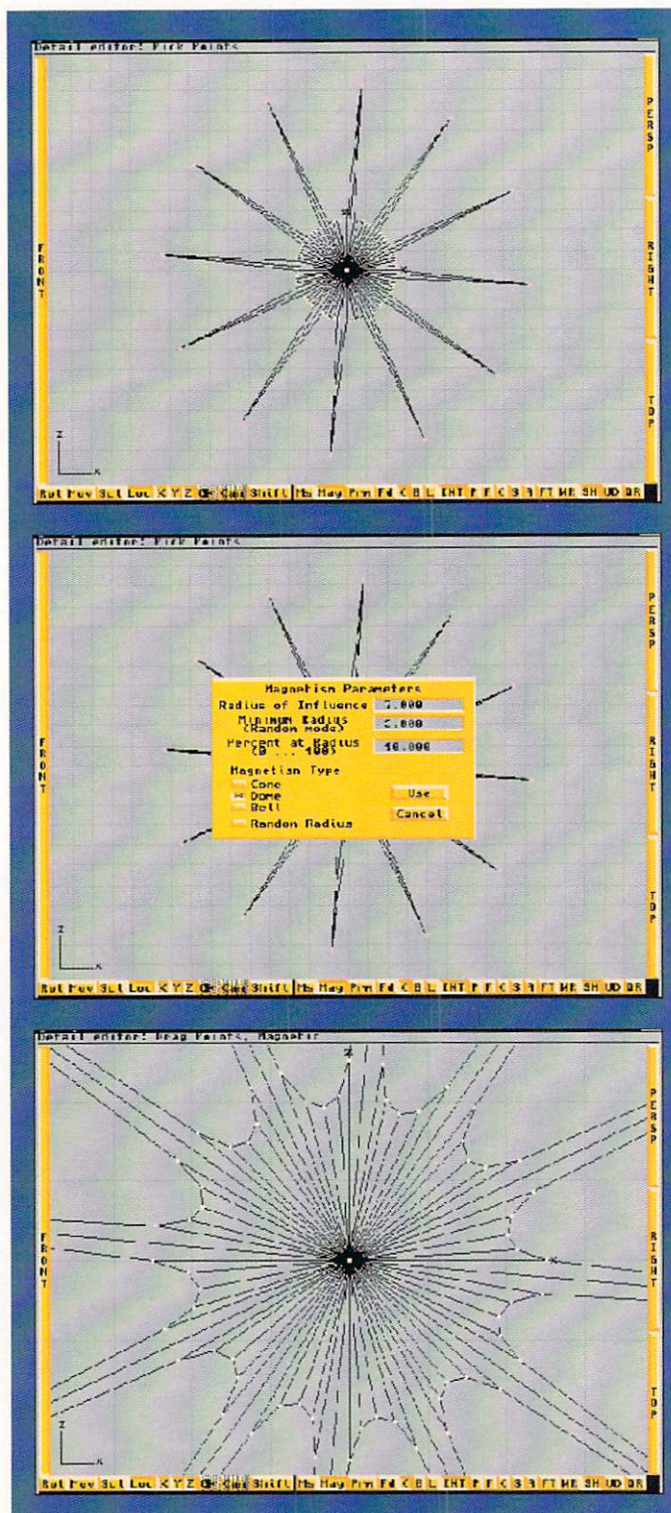
the surrounding points should follow through with a dipping action, producing a nice, smooth curve (Figure 3).

Now that the construction of the flare is completed, the next step is to apply the attributes to make this really look like a lens flare. To do this, I used the Radial procedural texture in Imagine.

Go back to the mode menu and select Pick Groups. Next, turn on the Coordinates under the display menu, and measure how great the radius of the disc is. Now, go to the attributes requester by hitting F7, click on the first box marked Texture1, and select the Radial texture. This texture allows the user to do many alterations to the surface of an object, and encompasses color mapping, reflection mapping, and transparency mapping. The only two that are relevant to this tutorial are the color and transparency mapping aspects of Radial.

When radial is applied to an object, it takes the base attributes in the Attributes requester and provides for a smooth transition to the attributes set up in its own requester. For example: If an object is opaque in the attributes requester and the settings are for completely transparent in the Radial requester, then Imagine will perform a transition from opaque to transparent, and the abruptness of this change is based on a preset distance set up in Radial. Knowing this, you can now feather the flaring portions of the disc as they proceed outward, making the lens flare look all the more realistic.

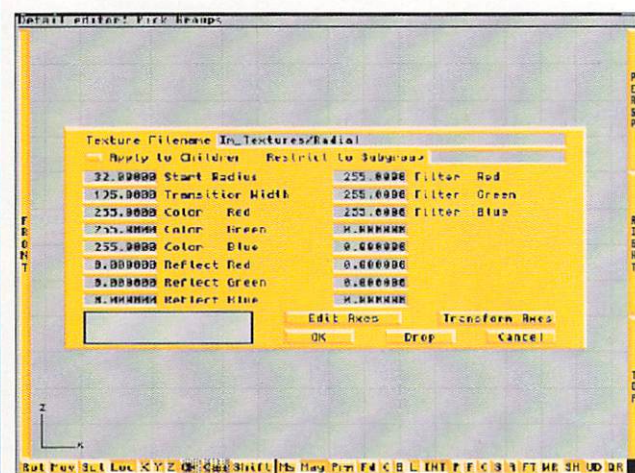
So, getting back to the Radial requester, here is a rundown of what should be entered in each of the data entry boxes (Figure 4). Since my radius for the flares came out to be about 230 units, I set the transition width to slightly less than the radius to provide for more of a feathering effect. In this case, the distance is 195. This number may vary simply because each lens flare may be slightly different. The next step is to set the rest of the attributes in this requester. Set the color to white (255, 255, 255), set Filter (transparency) to maximum (255, 255, 255), and leave Start Radius and Reflect alone. Now, scale the texture to fit the object correctly, and accept these changes by clicking in OK. Now in the attributes requester, set the object to read as Bright. Now, no matter how much or how little light hits the flare, it will be illuminated equally at all times.



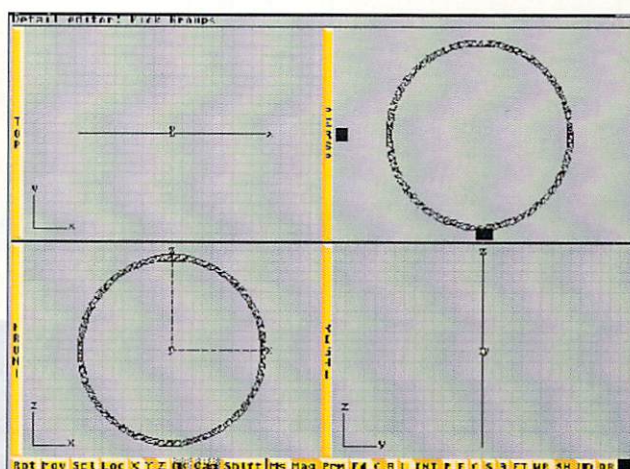
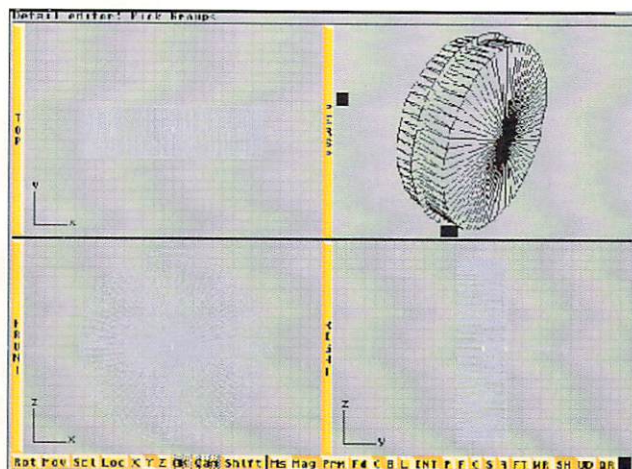
Above: From top to bottom, Figures 1 through 3.

Right: Figure 4.

Opposite: From left, Figures 5, 6, & 7. Bottom: Figure 8.



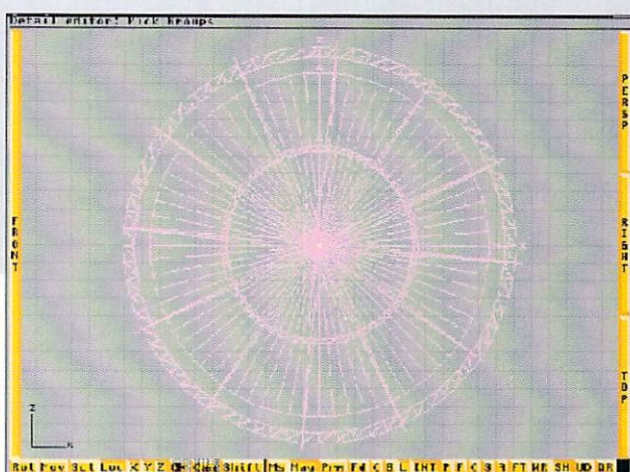
The next step is to add that "glow" or haze around the flare. To do this, add a disc again, and size it so that the points of the flare are just slightly longer than the disk's radius. Now, add the radial texture in a similar fashion to this disc as was added to the flare, but this time make sure that the transition width is slightly shorter, or more abrupt than that set for the flare. When this step is finished, be sure to move the "haze" disc slightly to the back of the main flare object; this is only a slight movement. The reason for this action is that sometimes Imagine will get confused if the two objects occupy the same space, and therefore the resulting image will have some defects.



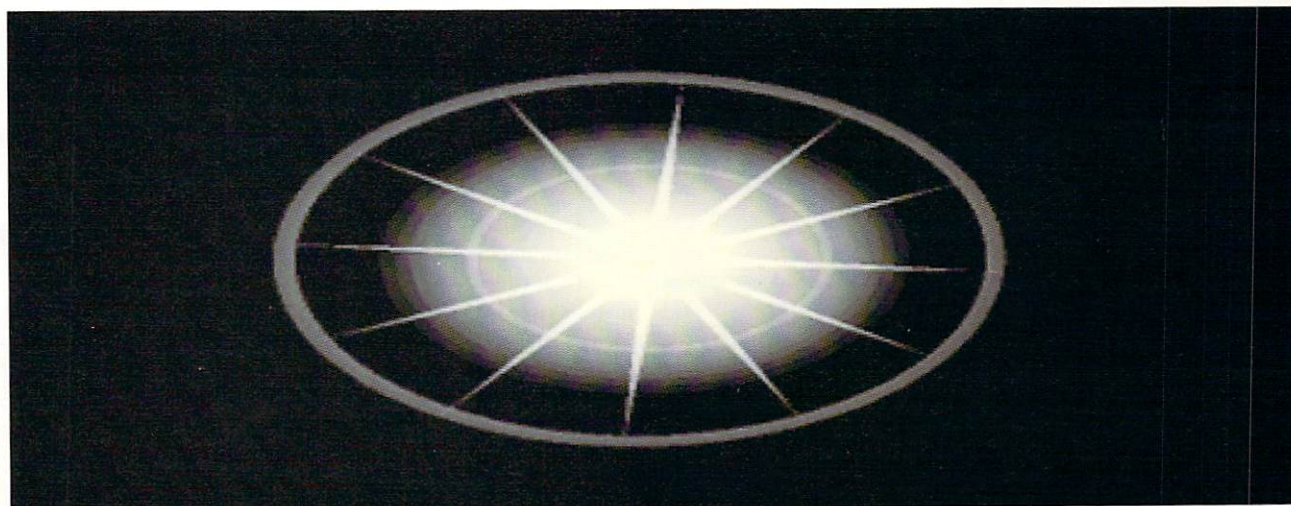
We're almost done. The last part concerns the ring formations that sometimes occur around lens flares, and the rings can be constructed using Imagine's Boolean math functions. First, before doing anything, select all, group these objects, and save the file under some appropriate name. Now, delete the flare part. Select the haze disc, and copy and paste it. Next, take one of the disks and scale it down so that it is just slightly smaller than the original disc. Now, select Extrude from the Mold requester. Position the two disks so that the extruded one intersects with the flat one. Also, be sure to rotate either one of the disks on the Y-axis to ensure that Imagine's Boolean math engine will not get confused (Figure 5). The next step is to select Slice from the object menu. In a few seconds, the operation will be complete. Once again, select all, and this time ungroup everything. Delete all irrelevant objects until all that is left is a ring (Figure 6). As before, apply the same attribute with the Radial texture, and then load back the grouped object. Copy and paste the ring down again and re-size it so that it is somewhat smaller than the larger ring and place the two rings in locations similar to those in Figure 7. Group the objects and save them, and then perform a quick rendering (Figure 8).

Because of its perfect nature, the computer can sometimes be very sterile and boring. When imperfections, such as lens flares are added, the pictures produced on computers tend to take on a much more realistic and lifelike appearance, and this is just one step closer to realism.

•AC•



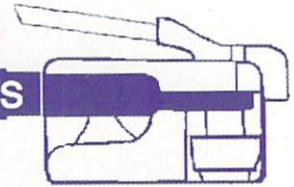
Please Write to:
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 P.O. Box 2140
 Fall River, MA 02722-2140



on line

by Rob Hays

amiga telecommunications



Automation enriches our lives in many ways. Try to imagine how much your car would have cost if Ford or Chevrolet had come to your house and built it by hand in your driveway. Automation figures into telecommunications as well, and this month we will be looking at two automated terminal programs.

While it is true that ARexx allows us to automate the functioning of many programs on the Amiga, the following two programs do much more within their limited boundaries. With *Aladdin* (Figure 1), and *AutoPilot* (Figure 2), you are literally a mouse click away from GENie or CompuServe, respectively. Both programs will call, log on, check for new messages in your favorite areas, send and receive e-mail, upload and download files, then log off and hang up the phone line. This is possible because the programs are designed for use on only one system. The program knows what sort of response the system will have in any given situation.

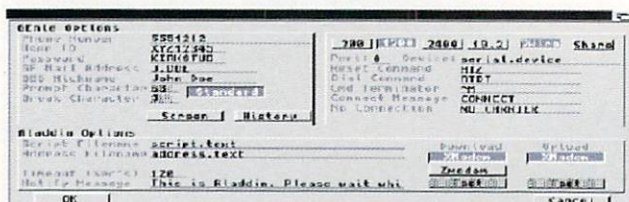
Aladdin is fairly simple to configure, and extremely simple to use. Virtually everything is point-and-click or menu driven. Most problems people have are related to their modem cable. Serial communications require only three lines, or connections, between the computer and modem. One is for data moving between the modem and computer, one is for a common electrical ground, and one is for the two devices to signal which is to send and which

receives. There are 25 pins on a serial connector, and the RS-232 standard defines signals for 20 of them. Most communications programs and modems don't require all 20 signals in order to work, so some serial cables don't have connections for all 20. Aladdin makes use of all of the signals for controlling the modem, so you must make sure the cable you use supports the RS-232 standard.

After you have Aladdin configured with your GENie account number, password, and the phone number to call, scroll through the lists of the different RoundTables, choosing the ones that interest you. When this is done, from the Project menu select Update Topic Lists and Aladdin will call GENie, log on, go to each of the RoundTables and retrieve a list of topics. When it is finished, Aladdin will log off and return you to the main screen. Now go to the RoundTable menu, choose Select RoundTable, and one of your RoundTables from the sub-menu. Now when you select Mark-Reply Old Topics from the same menu, you are presented with a list of all topics within that RoundTable. Choose the ones you wish to read, and tell Aladdin at what date you wish to begin reading from. Follow this same procedure for each of the RoundTables you have chosen, and the next time you tell Aladdin to call GENie, all of the messages you have selected will be downloaded to your computer for you to read at your leisure.

Your replies are handled just as simply. As you are reading, there is a row of button icons across the bottom of the screen. These control movement through the message base, and by clicking on the Reply button, you can type a response to a message, which is then saved until your next online session, when Aladdin automatically uploads it to the system.

To download Aladdin, type M1055 at any GENie prompt, then choose menu Item 6 to obtain the latest version of Aladdin. Menu Item 7 will download the full users manual, and Item 8 the quickstart guide. Version 1.62 of Aladdin is 157,312 bytes long and will require approximately 13 minutes at 2400bps to download. The manual is 69,760 bytes and should be yours in less than six minutes at the same speed. Aladdin is giftware, meaning there is no fee requested after you pay for the download. Remember that

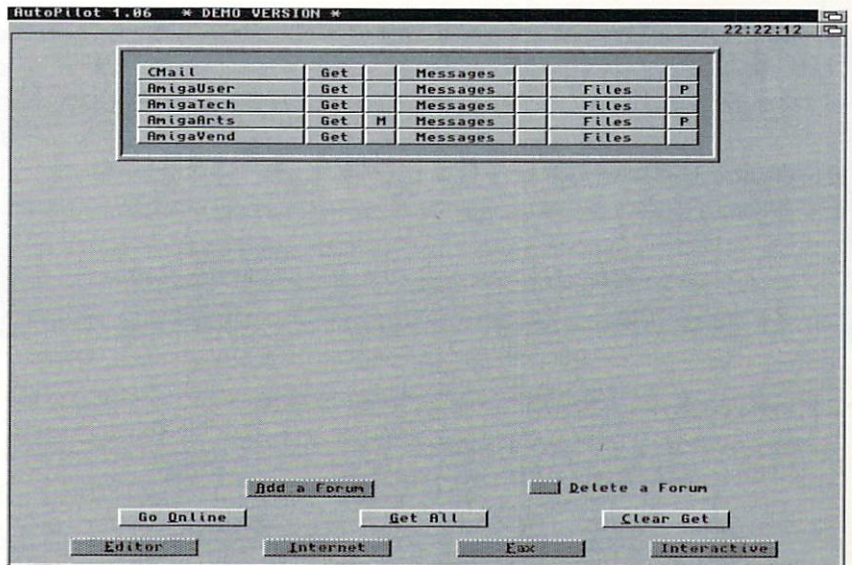


Aladdin is suitable only for use with GENIE and requires Workbench 1.3 or higher, and a hard disk is a recommended option.

CompuServe also has an automated program available for Amiga owners, called AutoPilot. Like Aladdin, you fill in the requesters with appropriate information, such as phone numbers, user ID, and password. You are then presented with a screen containing gadgets for the four Amiga Forums, and C-mail (CompuServe e-mail). By selecting a Forum name, then clicking on the Get gadget, you can tell AutoPilot which Forums to visit, and whether to retrieve listings of available files or messages. Available files and messages can also be defined by age in days, so you can retrieve only ones posted in the last 10 days, for instance. If you don't want to download all messages in a Forum, you can retrieve a list of message topics.

AutoPilot is a demo version of a commercial product. If you wish to register and have a full-featured version, it will cost you \$69.95. You obtain the full version by registering your demo version online. You then receive a C-mail message that will automatically transform the demo into the full version. The demo version is limited to the Amiga sections on CompuServe, and C-mail, but is nearly full-featured for use in these areas.

AutoPilot requires Kickstart 2.04 or higher, 2MB RAM and 5MB of hard disk space to operate. AutoPilot can be downloaded by typing GO AmigaVendor at any CompuServe prompt. Choose menu Item 3 to move to the files area, then menu Item 9 for AutoPilot. The file name is AP.LHA and is 204,620 bytes long, requiring about 17 minutes at 2400bps. The compressed version of the documentation file is called APDOCS.LHA and is 43,361 bytes, downloading at 2400bps in about three minutes. The ASCII version is APDOCS.ASC and is 108,879 bytes, requiring about nine minutes.



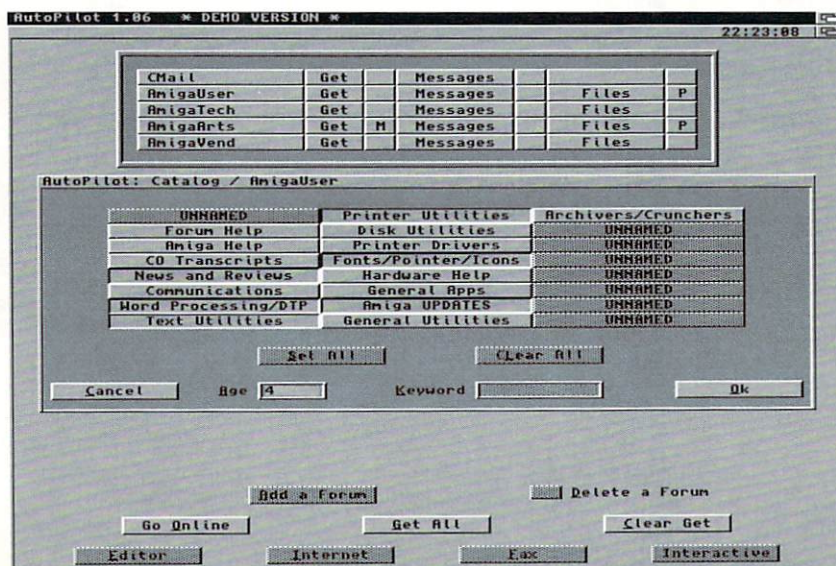
Both of these programs have a similar list of features. The main difference is that AutoPilot allows you to set up three different phone number/modem speed combinations. Aladdin allows only one phone number to be stored. They will save a lot of money in connect charges if you use the systems frequently. Since the programs do not have to pause and decide which options to choose, like humans, the savings can be substantial if you are using 9600bps or faster modem speeds.

File of the Month

If you are looking for exotic BBSs to call, check out file #21054 on GENIE, named TW-WABL9310.lha. This 20,480-byte archive may not contain every Amiga-oriented BBS in the world, but systems from Australia to Slovenia are represented, with phone numbers and supported modem speeds listed. This is a monthly list compiled by Ed Dukeshire, and the October 1993 list contains 523 systems. At 2400bps the power to reach out and touch a BBS in, say, Hong Kong, can be yours in less than two minutes.

That's all for now. Remember that I can be reached on CompuServe as 72764,2006, and on GENIE as RHays5. See you online!

•AC•



Please Write to:
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 c/o Amazing Computing
 P.O. Box 2140
 Fall River, MA 02722-2140

Amiga on Internet

by Henning Vahlenkamp

Internet is the global standard computer network. Larger in both size and services than all the commercial networks combined, Internet, with over 20 million users, traverses the continents of the world. And it's growing faster than ever, almost too fast to measure accurately.

In fact, Internet's widespread nature makes it a possible model for the proposed digital information superhighway supported by the Clinton Administration (see Editorial Content in AC V8.7). Even if such a highway is based on Internet, it probably would be significantly different, but that's another topic.

Unlike commercial networks, Internet isn't owned by any company, and there's no central location you can access. Rather,

Internet is a distributed network of networks—over 8000 of them. For example, the primary United States portion is called the National Science Foundation Network (NSFNET). Component networks, connected by "gateways," are composed of interconnected sites which are themselves composed of one or more computers. So at the most basic level, Internet is the sum of its computers, forming a vast sea of connections. Using the Transmission Control Protocol/Internet Protocol (TCP/IP), there's seamless communication everywhere, although every site isn't directly connected to every other.

As you may have guessed, something as big as Internet didn't just spring up overnight. It began back in 1969 as the Advanced Research Projects Agency Network (ARPANET) for the U.S. Department of Defense. ARPANET was an early networking experiment linking computer centers. Gradually other networks were connected too, and the term "Internet" was adopted for these interconnected networks. But the real growth began with the creation of the NSFNET in 1986. Since then, ARPANET disappeared and networks around the world have become connected to Internet.

Today, most colleges and universities are on Internet, besides military and government agencies. Although Internet has been historically noncommercial, things are changing with the addition of many businesses. All kinds of organizations, such as non-profit ones, are becoming connected too.

How It Works

Before diving into Internet's services, let's take a brief look at how it works.

As mentioned earlier, computers on Internet communicate via TCP/IP. One of its basic features is the use of host names and addresses. Uniquely identifying a computer, host names consist of a variable number of character strings called "domains" separated by periods. For example, "grinch.trenton.edu" is a computer at Trenton State College, my school. The domains represent entities of increasing size, going from left to right in the name. So "grinch" is the actual computer (a SUN workstation), "trenton" is its

Table 1. FTP Basics

! <command>	execute command (local machine)
ascii	set ascii transmission mode
binary	set binary transmission mode
cd <directory>	change directory (remote machine)
close	terminate a connection
dir	directory listing (remote machine)
get <source> <target>	download a file
hash	print '#' for every packet transferred
lcd <directory>	change directory (local machine)
ls	simple directory listing (remote machine)
mget <file spec>	download multiple files
mput <file spec>	upload multiple files
open <host name>	open a connection
put <source> <target>	upload a file
pwd	print directory (remote machine)
quit	end FTP session

A look at the Amiga on-ramp to the digital information highway

location, and "edu" is the set of all educational institutions in the U.S. By convention, the rightmost, or top level, domain is one of the following:

"com"	(businesses)
"edu"	(educational institutions)
"gov"	(government agencies)
"mil"	(military agencies)
"net"	(network organizations)
"org"	(other organizations)
two letter code (foreign countries)	

Host names may be convenient for people, but computers need numeric addresses to find each other on Internet. Nearly everyone uses the Domain Name System (DNS), a distributed database, to do the translation, instead of the old host tables. IP addresses, as they are called, are unique 32-bit numbers comprised of four 8-bit numbers separated by periods, allowing over four billion computers on Internet. Say you wanted to contact "grinch.trenton.edu". DNS would pass that name to various computers to assemble the address, returning "159.91.5.10."

Incidentally, host names also are used for electronic mail (e-mail) on Internet. Since multiple users may be sharing the same computer, referring to a particular user requires an e-mail address like "vahlenka@grinch.trenton.edu," where everything before the "@" symbol is the user name (mine) and everything after it is the host name. E-mail is outside the scope of this article, so I won't go into any more detail.

Besides names and addresses, TCP/IP handles the actual communication on Internet. When one computer contacts another, its transmissions are broken up into "packets" which can arrive at their destination in any order. The protocol reassembles the packets and makes sure that everything worked correctly. Using packets means that multiple transmissions can share the same line, unlike a telephone conversation which requires a dedicated line. Hence Internet is a "packet switched" network.

How To Use It

First of all, I should mention that most Internet computers use the UNIX operating system, on account of its powerful multiuser capabilities. Although Internet is not synonymous with UNIX, its basic utilities (Archie, FTP, Gopher, Telnet, and WAIS) originated there. Fortunately, these utilities have transcended UNIX, and they are now available for virtually any computer in many different forms.

Amiga users would probably be most interested in FTP (File Transfer Protocol). FTP is used to transfer files from a remote site to your machine, allowing you to upload and download files to and from software archives known as "FTP sites." Using it is as simple as typing FTP followed by a host name or address. Once a connection is made and you enter a login name and password ("ftp" and your e-mail address nearly always work.), you're presented with a command line interface similar to the Amiga Shell from which you can execute a variety of FTP commands summarized in Table 1. Just remember to use the binary transmission mode for anything other than ASCII text files. That's really all you need to know about FTPing.

While FTP only does simple file copying, Telnet actually logs you on to a host computer, making you one of its users. The startup procedure works similarly to FTP, although varying login names and passwords may be required. Telnet is especially useful

Table 2. Aminet Sites

Location	Host Name	IP Address
USA	ftp.wustl.edu	128.252.135.4
USA	ftp.cdrom.com	192.153.46.2
Sweden	ftp.luth.se	130.240.18.2
United Kingdom	src.doc.ic.ac.uk	146.169.2.1
USA	ftp.etsu.edu	192.43.199.20
Switzerland	ftp.eunet.ch	?
Germany	ftp.th-darmstadt.de	130.83.55.75
Germany	ftp.cs.tu-berlin.de	130.149.17.7
Germany	ftp.uni-oldenburg.de	134.106.40.9
Germany	ftp.uni-kl.de	131.246.9.95
Switzerland	litamiga.epfl.ch	128.178.151.32
Germany	ftp.uni-paderborn.de	131.234.2.32

for taking advantage of interactive services such as online libraries or databases. Everything that happens after logging on depends upon what the host provides.

Regarding the other Internet utilities, Archie searches for files in publicly accessible archives (FTP sites), Gopher features a menu-driven interface to find and use various services, and WAIS (Wide Area Information Servers) searches for text in files such as databases. There are a number of other utilities too.

Where to Find Amiga Support

Amiga support on Internet is mainly FTP sites and USENET. I won't say much about USENET since Gary Fait already discussed it in AC V7.7. But I would like to add that USENET newsgroups, including Amiga-specific ones, are widely available on Internet through newsservers. Utilities such as RN or NN should allow you to read the news.

If you're more interested in software, then FTP is the way to go. And most Amiga users needn't look any further than Aminet, the Amiga FTP headquarters. Summarized in Table 2, Aminet is a collection of FTP sites consisting of ftp.wustl.edu, the main site or hub, and its mirrors. Mirror sites contain copies of the files at the hub, preventing an overload of users there. All the sites house Aminet in their "/pub/aminet" directories. With about a gigabyte

of software in over 5,000 files and 10,000 users daily, Aminet is very popular indeed.

This success story began with ab20.larc.nasa.gov, the home of Amiga FTP for years. In April 1992 ab20 was shutdown, so Amiga users flocked to amiga.physik.unizh.ch, a small site, running on an A3000UX, that was created by a dedicated group of students at the University of Zurich in Switzerland. Eventually mirror sites were added as traffic increased, and Aminet was born. Then in June 1993 amiga.physik was shut down and later recommissioned as ftp.eunet.ch, making ftp.wustl.edu the new hub. Today Aminet has come a long way from its humble beginnings, and with any luck it will be a valuable asset to the Amiga community for years to come.

To simplify access to its files, Aminet is organized hierarchically into directories and subdirectories. For example, things like games, graphics, music, and utilities are put into their own groups. Those aren't the only categories, as just about any kind of public domain and shareware programs can be found on Aminet. In fact, many authors contribute their latest and greatest creations, making Aminet the best way to distribute Amiga software on Internet.

Every day, new uploads are logged in a file called RECENT, entire archive listings can be found in SHORT and LONG, and

Table 3. Miscellaneous Amiga FTP Sites

Host Name	IP Address	Subdirectory
a.cs.uiuc.edu	128.174.252.1	/pub/PDC
drycas.club.cc.cmu.edu	128.2.232.11	/AMIGA-SIG
* f.ms.uky.edu	128.163.128.6	/pub/amiga
iesd.auc.dk	130.225.48.4	/pub/Amiga
louie.udel.edu	128.175.1.3	/pub/ka9q
		/pub/Amiga.incoming
pilot.njin.net	128.189.103.1	/pub
plains.nodak.edu	134.129.111.64	/pub/amiga
* ftp.uni-stuttgart.de	129.69.8.13	/pub/systems/amiga
* tolsun.oulu.fi	128.214.5.6	/pub/amiga
ucsd.edu	128.54.16.1	/pub/amiga
rtfm.mit.edu	?	/pub/usenet
* ftp.informatik.rwth-aachen.de	192.35.229.9	/pub/amiga
stolsf.edu	130.71.128.8	/pub/amiga
gatekeeper.dec.com	16.1.0.2	/pub/micro/amiga
* aupair.cs.athabasca.ca	?	/amiga
avahi.inria.fr	138.96.24.30	/amiga
emx.utexas.edu	?	/pub/mnt/source/comm/dnet/amiga
nic.switch.ch	130.59.1.40	/software/amiga
titania.mathematik.uni-ulm.de	?	/pub/soft/tools/amiga
umnstat.stat.umn.edu	128.101.51.1	/pub/xlispstat/amiga
zaphod.nsca.uiuc.edu	141.142.20.50	/HDF/contrib/amiga
* grind.isca.uiowa.edu	?	/amiga
csvax.caltech.edu	131.215.131.131	/pub
princeton.edu	128.112.128.1	/pub/Graphics
topaz.rutgers.edu	?	/pub/infocom
math.uh.edu	?	/pub/Amiga
hacks.nada.kth.se	?	/pub/hacks/Amiga

TREE shows the Aminet directory structure. If you have an e-mail address, you can even subscribe to mailing lists of new uploads and Aminet discussions. The discussion mailing list is like USENET in that you can participate by posting to it. To quicken download time, all files on Aminet are compressed and most have small readme files overviewing them. In-depth information files about Aminet are available too.

Incidentally, the entire Aminet archive up to September 1993 is available on CD-ROM from Walnut Creek CDROM, a great Aminet supporter. It's an incredible bargain if your Amiga has a CD-ROM drive.

Besides Aminet, the other major Amiga FTP supporter is FUNET, the Finnish University Network in Finland. FUNET (ftp.funet.fi or 128.214.6.100) provides a huge 16GB archive with about a gigabyte of Amiga files in the "/pub/amiga" directory. Although it is comparable in size and carries much the same things as Aminet, there are plenty of unique files. Moreover, this Amiga archive's organization and upload mailing list are similar to Aminet.

Finally, there are many smaller Amiga FTP sites around Internet. Rather than going on for pages explaining all the ones I know of, I condensed them into Table 3. Most have fairly limited selections, but the larger ones of the group are marked with asterisks. For example, grind.isca.uiowa.edu contains the entire Fred Fish collection, whereas Aminet and FUNET only have the past few hundred disks. Every site was tested and the listing should be correct, but that may change by the time you read this.

How to Gain Access

There are several ways to gain access to Internet. As mentioned earlier, most colleges and universities as well as many businesses have computer systems connected to it. If you belong to one of these, you may be able to get an account and Internet privileges by asking the system administrator. Students often receive accounts automatically.

The above method usually means that you are directly on Internet—on a computer with an IP address. This type of direct,

dedicated Internet connection is also available for your computer at home through service providers such as UUNET and PSI, but it can be expensive. Getting access through a commercial network is much cheaper. Listed in Table 4, BIX, DELPHI, and Portal all offer basic Internet access through utilities including FTP and Telnet. With these types of connections you aren't technically on Internet, but that probably won't matter much. Besides, you do get an e-mail address from which you can communicate with anyone on Internet.

Where to Learn More

That concludes our look at Amiga support on Internet. As we have seen, this support is quite strong indeed, thanks to the efforts of the Amiga community. Internet really is an excellent resource for Amiga users, and I encourage everyone to take advantage of it.

Since this article focused on the Amiga, I had to avoid many non-Amiga-related subjects to keep it a reasonable length. But if you would like to learn more about Internet, you could refer to *The Internet Companion* or *The Whole Internet User's Guide & Catalog*. Listed in Table 5, both books provide exhaustive information, although some consider the latter to be the "Internet Bible." There's also *The Big Dummy's Guide to the Internet*. Don't let the name fool you. Rather than insulting your intelligence, this huge AmigaGuide hypertext document does a great job explaining Internet. Many other references are available as well.

•AC•

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Henning Vahlenkamp
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

Table 4. Access Providers

BIX	PSI
—	1180 Sunrise Valley Drive, Suite 1100
1-800-695-4775 (voice)	Reston, VA 22091
12pm-11pm Mon-Fri, EST)	1-703-620-6651 (voice)
1-617-491-6642 (fax)	1-703-629-4586 (fax)
1-800-695-4882 (modem)	
DELPHI	UUNET
—	3110 Fairview Park Drive, Suite 570
1-800-695-4002 (modem)	Falls Church, VA 22042
1-800-695-4005 (voice)	1-703-204-8000 (voice)
Portal	
—	
1-408-973-9111 (voice 9am- 5pm Mon-Fri, PST)	
1-408-725-0561 (modem 300-2400 baud)	
1-408-973-8091 (modem 9600-14400 baud)	

Table 5. References

The Big Dummy's Guide to the Internet Electronic Frontier Foundation 1993 Aminet: /pub/aminet/text/docs/BDAmiGuide2lnet.lha
The Internet Companion by Tracy LaQuey with Jeanne C. Ryer Addison-Wesley Publishing Company 1992 ISBN: 0-201-62224-6
The Whole Internet User's Guide & Catalog by Ed Krol O'Reilly & Associates, Inc. 1993 ISBN: 1-56592-025-2
Walnut Creek CDROM 1547 Palos Verdes Mall Walnut Creek, CA 94596 1-800-786-9907 (voice) 1-510-674-0783 (voice) 1-510-674-0821 (fax)

Desktop Publishing & Forms

by Dan Weiss

How many times have you been handed a piece of paper or a little card to fill out? How many times have those same forms offered you plenty of space for your name, but no space for your address or phone number? Or maybe there were three choices, but only two places to check off? Or perhaps the form was fine, but it had been photocopied so many times that it was unreadable? Forms are a day-to-day necessity of modern life. Yet all too often they are impossible to fill out, or just plain don't make sense. Well designed forms are hard to find, and a gold mine opportunity for desktop publishers.

In many ways this article is inspired by a regular reader of *Amazing Computing*, Dianne Hannah. As a desktop publisher, Dianne encounters many of the same projects and tasks that we all do. In a recent package, she sent a stack of before and after examples of her work. Many of the projects she does are redesigning forms that are used in her day-to-day life. Some of these forms have been created years ago on a typewriter and endlessly photocopied. Through each successive generation, the original has been turned or marked up to the point where much of the information has become unreadable or just plain lost. But no one has gone back and redesigned these forms.

Ask Who, How, and Why

Designing a proper form is an art form—to use an expression—in itself. The designer must take into account who the form is for, what information the form is trying to capture, and why the form is being used. Is the information meant for the person who is filling out the form, such as a sheet to record test scores, or for someone else to compile, such as a comment card. In the first case the form is serving as a reminder. As much as possible, space should be given for the user to add extra notes that may enhance the

Left, Figure 2, a less-than-satisfactory form.

SPECIAL PART ORDER FORM

INSTRUCTIONS - PLEASE BE SURE TO FILL OUT ALL SECTIONS OF THIS ORDER BEFORE SUBMITTING IT. CARDS THAT ARE NOT COMPLETELY FILLED OUT CAN NOT BE PROCESSED. BE SURE THAT THE PART IS NOT IN STOCK BEFORE ORDERING IT.

ORDER NUMBER _____
PART NUMBER _____
SKU NUMBER _____
DESCRIPTION _____

DATE ORDERED _____
ORDERED BY _____

AUTHORIZED SIGNATURE _____
PLEASE CALL _____ WHEN SPECIAL PART ARRIVES FROM THE DISTRIBUTION CENTER.

An easy way to create custom forms with your favorite DTP program

information such as "extra effort" or "half chewed by dog." In the case where the form is meant for someone else, then information about who is filling out the form is very important. Space for name, address, and phone number is critical. Be sure not to skimp in these areas or you may only get part of the information you want.

How the form is to be used is also very important. If the form is meant to be filled out while sitting down and concentrating, then it is fine to try to pack more information into a given amount of space. On the other hand, if the form is a sign-out sheet or a permission slip that needs to be filled out quickly, it should have ample space and be easy to understand. People writing quickly or under less than optimal conditions, as when standing, tend to need much more room to write. Also keep in mind what the user will be writing with. Golf courses are very guilty of not taking this into consideration. They give you a nice small score card and tiny pencils that are about as sharp as a crayon. I always feel as though I'm back in first grade trying to stay between the lines. Making this worse is the fact that I am trying to write against my hand, standing up. It is really a wonder that the results are readable at all.

Why a form is being filled out is very important as well. Many forms are meant to serve short term needs. Sign-up sheets, golf score cards, and permissions slips may have a lifetime of only a few days at most. In which case, as long as the information on the form is fairly legible it's fine. Other forms like personnel records must stand the test of time, as they will be examined repeatedly. To force the user to be precise, we can use what is known as a "comb."

A comb is a series of boxes in a line that are meant to each hold a single letter

or number. In Figure 1 we can see the difference between using a line for the name and using a comb. The comb forces the user to separate each letter. Also, the comb allows the user of the form to know how many characters are expected or how much space they have for the information.

Design for Clarity

Visually, the most important thing to keep in mind when designing or redesigning a form is clarity. A form should be very easy to follow and intuitively it should make sense. Remember, the form you design will likely take on a life of its own, being

Order # 63A243B7110

Order # 6 3 A 2 4 3 B 7 1 1 0

PageStream v2.20L
goodForm.doc

Special Part Order Form

Order #:

--	--	--	--	--	--	--	--	--	--

Date:

	/		/				
--	---	--	---	--	--	--	--

Stock #:

--	--	--	--	--	--	--	--	--	--

Ordered By: _____

Signature _____

When part comes in, please call: _____

Form SPOF Rev 2 Work:OrderForms

Above right, Figure 1, a simple way to neatness.

Right, Figure 3, the start of a well-designed form.

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copied and recopied. It will also more than likely be used for years to come, so make it clear. A good rule of thumb is to use only sans-serif fonts like Helvetica and Lucida-Sans. These fonts have clean, distinct characters that are easy to read even after having been photocopied or faxed to death. If at all possible, use fonts above 10 points in size. This may take up some precious space, but it will make the form much easier to read by visually impaired readers and preserve readability in the long term.

Margins are another important issue. Photocopiers have become the printing press of modern offices. Each time something is copied, it is rotated slightly one way or another. This has a way of whittling the edges off of the page. If your form goes to the edges of the page, important information will get lost. As hard as it may be, keep a one-inch margin on all four sides of the page, not on just the right and left.

Horizontal or vertical lines rules can be a powerful tool for dividing up a form, but should be used sparingly. Too often they can distract from the layout or perhaps be mistaken for entry lines in the form. Boxes around key areas can also be a problem. Any form should have an obvious way to progress through it. Usually this would be left to right, top to bottom. With too many boxes this order can be destroyed. Placing a long box from the top of the form to the bottom on the right side can be very confusing. Is that box filled out first, last, or perhaps not at all? Unless there is a distinct need to separate a chunk of information on a form, avoid boxes.

Another popular tool in form design is the use of a "screen," a light colored background for certain areas of the form. Visually this can break up the monotony of the form while not making the sharp divisions a line or box will. If you are designing a form to be imaged and professionally printed, then screens can be wonderful. Unfortunately, many forms are "printed" by being photocopied. Screens generally do not photocopy well at all; instead, they end up as blotchy patches of gray that obscure the text. While your forms may look a little more boring without screens, avoid them if they will be photocopied.

The last tip for clarity is to use the tools of desktop publishing at your disposal. Many forms started out on the typewriter. Since only one font at one size was available, tricks like using all caps for titles or spacing out text were used. But now you have the ability to use larger fonts and bold fonts, and to manipulate line and character spacing. Do not use all uppercase letters. Use a larger font or perhaps a bold font to draw attention to different sections.

Use dingbats to enhance your forms. Zaph Dingbats have check boxes, telephone symbols, scissor cut markers, and more that can liven up a form and provide important visual cues. Most people filling out a form view it as a kind of test. By using dingbats you can humanize the form and make it a little more obvious as to what is to be done.

Put It into Action

Let's stop a minute and put some of these points into action. Figure 2 is an example of a typically bad form. Originally designed in a text editor, it uses a single font throughout, runs close to the margins and give limited space for important information. Figure 3 shows the redesigned form. Notice that on the lines where the user has to handwrite information, the interline spacing is much larger. Keep in mind that most people cannot fit their handwriting into the same space a 12-point font will fit. Look at notebook paper to get a feeling for what a good line spacing would be. Using the comb for the order number, date, and stock number improves the legibility of those important pieces of information. Old and

irrelevant information such as the SKU number, description, and instructions have all been removed. Because of the small size of this form (5" x 3") the margin needed to be less than one inch.

An enhancement that we have not discussed is also present on the redesigned form, the revision information. It tells you what form this is, when it was created, what version it is, and most importantly where it can be found. In this case the form SPOF is version 2 of the form, and kept in Work:OrderForms. Using this information allows users to know they are using the most up-to-date version of the form and reminds you where the computer original is long after you may have forgotten.

No Form Is Sacred

When redesigning a form of any sort, keep in mind that no form is sacred. Unless you are dealing with a form that is passed to another organization, like a grant application, you should always feel free to completely update it. Too many people are caught up in the "custom" syndrome. To often we get caught in a cycle of repeating the mistakes of those that came before us. When redesigning a form start out by filling the form out yourself. Did you run out of space anywhere? Did you know what information was needed in each part? Don't blindly copy part of a form if you do not understand it. Perhaps that part of the form is no longer used, and should not be included in the new version. Did the order of the form confuse you? Was any of the information duplicated? Could any of the information be grouped or organized more efficiently? Be sure to view the form with a critical eye, not just an artistic one.

Establish a Jury of Peers

Finally, after designing or redesigning a form, fill it out. Was it easy? Did it flow naturally? Did you do it right? If you didn't fill it out right, was the form confusing? After you have filled out the form, give copies to someone a generation older and a generation younger than yourself. Also give a copy to a person that will use the form or has used the previous version of the form. Can all of these testers fill out and understand the form? Is it easy to read? Does it make sense to someone who has never used it before.

Now put it to the photocopy test. Have five people copy the form five times then exchange copies and copy the copies. Crumple up a few of the copies before copying them again. After playing mix and match for a while, look at the results. Is everything still on the page? Is the type still readable?

Go With It

If your form has made it this far, then you probably have a winner. No form is perfect, nor can it stay relevant forever. As needs change, the forms will need to be updated and replaced. While every one is looking towards the paperless office, we are filling out more forms than ever. This is a great area for desktop publishers and one where a well thought-out effort really shines. Until next month, keep in touch. I can be reached via internet at danw@slpc.com.

•AC•

Please Write to:
Dan Weiss
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Fall River, MA 02722-2140

World of Commodore Cologne

November 5-7, 1993

by Ben Vost

Take a standard U.K. show, say in Wembley, multiply it by four and you will have some sense of how big the WOC in Cologne really was. With over 150 companies represented, and with over 50,000 visitors on the Saturday, this, to paraphrase a certain Middle Eastern dictator, is the mother of all shows!

For me, the nicest thing at the German shows is the fact that people are there to *show* their wares, not just to sell them. At most English shows you have a couple of serious software stands, and then 25 or so stands all selling the same game-of-the-month. In Cologne, companies like Macro Systems, Village Tronic, Supra, ProDAD and others had several machines running demonstrations of the companies' latest product. One chap from Advanced Systems and Software, makers of the Fast Lane Zorro III SCSI 2 controller, lost his voice by the end of Saturday, and with averaging nearly 350 people visiting each company on the Saturday alone, it's not surprising.

Along with all the mayhem in the main hall, there were seminars running throughout the show in rooms to the side of the hall about C programming, system-legal programming, viruses, data compression and encryption and the topic of the day—PhotoCD for Amiga.

Commodore

Commodore didn't launch the A4000T at this show, as some people had expected, but Commodore did have the new FMV module for the CD32 on show along with about 60 demonstrator CD32s, about the same amount of A1200s, and several high-end machines showing such things as the Digital Broadcaster from Digital Micronics, or the SEK'D sampling system. Several of the machines were linked together to show the potential for networking.

Macro Systems

Macro Systems, who are probably the best-known German Amiga company, have a host of new products including:

Toccat: an internal 16-bit sampler with CD sampling rates, direct to disk sampling and playback, and many other features. This card works with A1500s, A2000s, A3000s, and A4000s.

VCode: a PAL encoder to composite and Y/C for video users to convert the Amiga's normal RGB signal to one that can sent directly to a video recorder. There is an internal and external version for use with any Amiga.

VLab Motion: An updated version of MS' critically acclaimed VLab which now includes Motion JPEG compression and decompression for full-screen video playback of digitized images.

Retina BLT Z3: A new version of MS' high-resolution graphics card this, time only for Zorro III users (A3000/A4000) with blitter, up to 4MB RAM, and now with optional built-in VCode module.





Maestro Pro: This isn't a new product but has been around for about a year, although not in the U.K. Basically it is a 16-bit Digital I/O card, which means it is designed for connection to digital audio media like CD and DAT Players with digital outputs. Maestro takes the digital signal and allows you to play with it, then send it back out as digital data. This means that there is no loss of quality, because the board is *not* sampling, but merely importing the digital data and then exporting it. This board is designed for use in digital mixing studios and can be used in any Amiga with slots.

KRP-Koruk

KRP-Koruk are the European distributors for DynaCADD, an excellent piece of CAD software available for the Amiga, PC, Unix, Mac and Atari's ST. They have reduced the retail price for the Amiga version of DynaCADD to 598 DM, which works out to about \$399 retail in the U.S.

Village Tronic

Village Tronic were demonstrating the latest versions of the software for their RTG board—Picasso II. They had animation software called Main Actor showing FLI animations from the hard drive or RAM in 256 colors at 640 x 480. I might add, the animations were running faster on an Amiga 4000/030 than I had ever seen them run on a 486. As I previously mentioned, the software plays FLIs and also ANIM5, ANIM7, ANIM8 and a Picasso own-brand animation format. It saves out as ANIM5, ANIM7, ANIM8 and Picasso; soon it will support GIF animations for loading and saving, as well as saving FLIs.

They also had a piece of fax software for any fax-capable modem called TrapFax. This takes full advantage of Picasso's high resolution Workbench to allow you to decode a full page fax in one go. The software takes a modular approach to save valuable memory.

To finish off their list of new products, they had Ariadne and Liana, two networking products. Ariadne is an ethernet card and Liana is a very cheap peer-to-peer network solution. Both are SANA-II compliant, the big C's networking standard.

Nicola Geley was also on their stand. He was ably demonstrating—he wrote the program—*TVPaint* for Picasso, picking out people from his audience and framegrabbing them onto the TVPaint screen, whereupon he was messing with their heads, literally!

ProDAD

Amiga Magazin and *Amiga Plus* really like ProDAD. They both awarded *clariSSA*, ProDAD's animation software, Product of the Year. Note that that isn't Software Product of the Year, which was won by *Real 3D v2*, but *product* of the year.

clariSSA is a piece of software based around the animation engine in Adorage, software for producing DVEs. Basically it takes single frames or ANIM5 sequences and converts them to its own format called SSA. SSA has two major advantages over ANIM5 and one major disadvantage. The advantages are playback that's up to 100% faster than ANIM5 and the ability to change palette on each frame. The disadvantage is, you guessed it, the fact that not much software supports SSA as yet. However, *clariSSA* comes with a standalone SSA player, so it should be possible to integrate SSA into most software that accepts external commands.

They were also showing a new version of clariSSA, the pro version that includes such truly professional tools as the ability to key to any color in the animation, a pseudo alpha channel, fades, wipes and effects within animations, and most astonishing of all, up to 80% faster playback speed than the standard clariSSA! To give you some idea of just how good everyone thinks clariSSA Pro is: *Amiga Magazin* gave it 11.5 out of 12. The highest mark I have ever seen previously in *Amiga Magazin* was 11.2!

Activa International

Fairly obviously, Activa were doing eye-popping demos with Real 3D v2, or R3D2, as I prefer to call it. But they also had a new product, by a Dutch company, called *MediaPoint*. *MediaPoint* is billed as a *Scala* MM beater, and it certainly looks impressive on screen. With its abilities to control various external devices like CDTV, Canon Ion, various VCRs and LaserDisc players and IV24 among others, CDXL playback and Serial and Parallel branching of scripts with active labelling, and the ability to view just one section of a complex script at one time, maybe they are not being

IFD are also going to be responsible for *Reflections 3*—*Reflections 2* is Germany's best-selling ray tracer and should be familiar to anyone who is aware of the work of Tobias Richter, who was also present on IFD's stand. The best news of all is that this program, which combines the technical excellence of R3D2 with the ease of use of *LightWave 3*, will be available in English!

COME Corporate Media

PhotoCD is the big topic with COME Corporate Media having already gained a license from Kodak. The only other current offering, as far as I am aware, is ASIMware's ASIM CD-FS, which is not licensed. PhotworX is suitable for any Amiga with a PhotoCD-compatible CD-ROM drive. It produces a contact sheet in any screen mode on the Amiga, meaning it supports AGA and any RTG graphics boards, and takes pictures off the PCD in resolutions up to about 2K x 3K in size. Mind you, you do need about 18MB of RAM to get that kind. It saves as IFF. It has rudimentary color-correction facilities as well as cropping. There is an English version available and the cost is 198DM (about \$130).

Along with all the mayhem in the main hall, there were seminars running throughout the show in rooms to the side of the hall about C programming, system-legal programming, viruses, data compression and encryption and the topic of the day—PhotoCD for Amiga.

over-optimistic aiming for *Scala*'s multimedia crown.

While I was on their stand, Vesa Kinnunen was delighted to accept the award for best software title of the year from *Amiga Magazin*.

Palatinum

Dark horse of the show looks to be this Adobe *Photoshop* clone for the Amiga, called *Repro Studio Universal*. It is an image-processing and retouching program with built-in scanner and vector graphics support. The interface, unfortunately, is not an intuition one, although it uses windows, menus and icons. It is definitely aimed at the high end of the Amiga market with no support for printers other than Postscript and import support for only IFF24 and TIFF. But it's early days for RSU, with umpteen improvements promised and some already fulfilled since the programs release in June this year.

IFD

Jurassic Park 2 will be probably be produced on an Amiga if IFD's dinosaur objects are anything to go by. With over 20,000 vertices and over twenty 24-bit files in the broadcast version of his Tyrannosaurus Rex model, it sure is a beauty! IFD are working on other dinosaur models including the ferocious Velociraptor, and they all come in a starter version with a limited number of vertices and no textures, a professional version with more vertices and textures, and the previously mentioned broadcast version, which requires over 20MB free after you've loaded the object to render it in full. At the moment the object is in *Imagine* and *Reflections* formats.

Eureka

Eureka were showing Afterburner, an accelerator card for A4000/030s and A3000, 50MHz 68030, MMU and FPU for under 1000DM (about \$675).

They also had PhotoCD software (not licensed by Kodak, as yet) for SCSI CD-ROM or CD32 with an expansion on the back to slave it to an Amiga or any other computer for that matter.

Well, there was lots more at the show, but even though I was there for two days, I still didn't get around everything! The next international show will be Toronto, and it will be interesting to see just how it compares: 154 companies, over 80K attendance. Beat that, Toronto!

P.S. If you go to only one Amiga show in your life, make it the WoC-Köln. It doesn't matter if you don't speak German, as most Germans speak very good English. But it really is the *best* Amiga show in the world!

•AC•

Organize Your Files with Professional Page

by Dan Weiss

As hard drives become more common and we all face mountains of floppy disks, there is a growing need for a program that will catalog and print listings of our files. There are many good utilities for organizing your files, but printing is not a strong suit of any of them. What if I told you that you may already own a great program that is considered among the best at printing anything, and can help organize your files? What miracle program is this you say? *Professional Page* from Gold Disk. No, I'm serious. Using the rich suite of ARexx commands and the natural power of ARexx, we can print file directories, graphics catalogs, and more.

At the sound of the word ARexx, most people scurry for cover. ProPage makes it a little less painful than usual and we will go over each step in detail, so don't worry. For those of you looking to learn a bit about ARexx, this can be a good tutorial. For those that already know ARexx, or don't want to know it, come along for the ride and pick up a neat file organizer.

Basic Needs

Well if you own ProPage (3 or 4) and have WorkBench 2.04 or better, then you're set. If you have an older version of WorkBench, you will need ARexx as well (ARexx is part of the system software in later versions). All of these routines rely only on the standard ARexx libraries and the ProPage commands; you do not need special third-party add-on libraries. If you have a book on ARexx programming, that might make things a little easier when you modify the scripts, but it is by no means required.

ARexx and Its Capabilities

Many Amiga users are already familiar with ARexx, but many more have never even heard of it. ARexx is the name given

to the Amiga version of REXX, a computer programming language. ARexx was designed to serve as a "scripting" language. A scripting language is a special programming language meant to control and communicate with other programs. In our project we will use ARexx to control ProPage and get it to print out file directory listings. ARexx is very powerful though, and can be used for much more complex and much simpler tasks.

Too Many Files

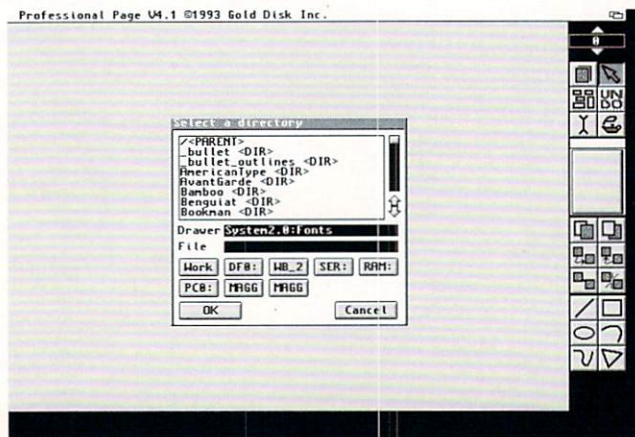
When I look at my hard drive all I think is where did all of these files come from and where did the file I want go? After those two rhetorical questions, my next question is, What are all these files? I have never been very good at just looking at screens and screens of file listings; I prefer paper. Nonetheless, since ProPage has a more than acceptable screen display, you can always look at the results on screen and even save the file.

The first project we need to undertake then is to create a listing of all the files in a directory. To do this I developed the program LISTDIR.PPRX. Let's take a look at it.

```
cr = '0a'x
if -show(1, "rexsupport.library") then
  if -addlib("rexsupport.library", 0, -30) then
    do
      call ppm_inform(1, "Please install the rexsupport.library in your
      lib: directory before running this script.")
    exit
  end
end

theBox = ClickOnBox("Select the starting column")
thePath = GetFileName("Select a directory", '')
chop = LASTPOS('/', thePath) /* chop back to the / */
if chop = 0 then chop = 1 + LASTPOS(':', thePath) /* don't chop the : */
ChosenVAList = DELSTR(thePath, chop)
choiceText = "Create a listing of " || ChosenVAList || " ?"
choice = Inform(2, choiceText, "Cancel", "OK")
if choice = 1 then
  do
    theFirstBox = ArtFirstBox(theBox)
    theFirstBox = SetEdit(theFirstBox)
    fileList = showdir(ChosenVAList, 'FILE', cr)
    success = InsertText(fileList)

    dirList = showdir(ChosenVAList, 'DIR', cr)
    dirList = dirList || cr
    success = InsertText(dirList)
  end
end
```



The opening block from the "if" to the "end" make sure that the one standard library that is needed is available. There is no need to worry about the code; just put it towards the beginning of your program before you use any of the non-ProPage commands.

The ClickOnBox command is a ProPage command that allows us to select where we want the listing to go. When we start this script, the column that will hold the listing needs to already be created and we must be in the arrow mode (with the arrow tool selected). When this command is executed, a prompt in the title bar will tell you to "Select the starting column."

Next the GetFileName command (another ProPage command) will present the user with the standard ProPage file selector. All the user needs to do is select a directory, but it doesn't hurt if they select a file.

Now that we know the path to the directory, we need to clean it up so that other commands can use it. To do this, we need to work from the right end of the text that the "GetFile" command gives us and get rid of everything from the last "/" to the end or from the "." to the end. In the case of the "." we need to keep the "." but in the case of the "/" we get rid of it.

This is a pretty common task, so common that there are two ARexx commands to help us. The first, "LASTPOS," is for finding the last position of a character or string in another string. This is exactly what we need. The next command, "DELSTR," will remove the end of a string given a position in the string to start from. The combination of these two cleans up our text perfectly.

OK, now we have the cleaned-up directory name, but is it the right one? Using ProPage's Inform command, we can ask the user if this is what he wants. The Inform command can have one, two, or three buttons. When there are two buttons, they are labeled OK and Cancel. The requester can hold any text we want, so we make up a line of text that asks if this is the right directory. If the answer is Cancel, we are done. If the answer is OK, then we create the listing.

If the user clicks OK we need a place to put the text. By using the box the user selected in the beginning, we can find the beginning of the article that that box is part of. For a nice multi-column listing you can create a page with three columns that are linked. It doesn't matter when selecting which box to place the listing in, since all three boxes are linked. The "ArtFirstBox" command takes any box in a set of linked boxes and finds the first in the sequence. We then use the "SetEdit" command to place the cursor at the start of that box.

The "showdir" command is what makes this whole project possible. Giving the path to the directory we want to list, deciding if we want the files or directories, and supplying a separator are all we have to do. The separator will be placed after each file name. Since we are trying to make a list, we will use a carriage return for the separator. Since you can't put a carriage return in quotes, we use a numeric definition, and give it the name "cr." The definition is the first line of the program.

After we get the list of files, we insert the text at the current cursor location, which we just set. We use the same process for the subdirectories in the directory. Why do the files first? Because the cursor doesn't move when text is inserted. If we did the subdirectories first, the files would be inserted at the the beginning of the column before the subdirectories. Now we have a finished directory listing ready to print from ProPage.

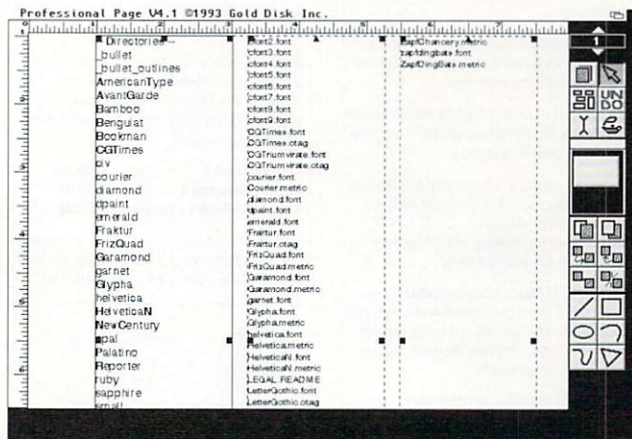
Apply desktop publishing

Pretty dull looking, huh? For all that work, it looks like every other text listing of files. At the top of the program I said that the

big advantage to using ProPage was the output, so let's use those capabilities.

The first part is make the files and subdirectories look different, and get away from the Times font. To format text normally, you would create a style tag. In ARexx scripts you can do the same thing, so we need to define a files and a subdirectories style tag. We could manually create these tags in the program and reference them, but it's easier to put them right into the script. At this point I could tell you that I am a master of writing arcane ProPage style tags, but I would be lying. To get the format definitions of the tags, I created the tags inside the program then wrote a two-line script that dumped the tag out. The script was:

```
data = GetStyleTagData("DirStyle")
choice = Inform(1,data)
```



Then I copied the results into the file. The only difference between the two tags is that the subdirectories tag uses 12-point bold type and the files tag uses 10-point normal type. Both use the (CS)Triumvirate Compugraphic font and normal spacing and display attributes. To actually use the tags, we need to place them in with the text using the "SetStyleTag" command. We place these right before flowing in the text.

Taking a critical look at the listing, you might notice another detail that needs to be addressed. On the Amiga there are special files with the last four characters of "info." These "info" files are very important and provide icon and execution information, but they are meant to be invisible files. The Workbench graphical interface will not display an icon for these files, as in most cases the files are the icons. Only in text listings will info files become visible. For our listings though, they simply take up space and we should get rid of them. To do this is simple; all we need to do is process the list of files in a directory before placing it in the text column. We do not need to process the list of subdirectories, since there are no "info" subdirectories.

The code to do the processing is fairly simple using ARexx's ability to parse a string. We look at each file name and check to see if it contains "info". If it does not, then we add it to final list of files; otherwise we continue. We need to change the separator from a carriage return to a "/" (a character that cannot appear in a file name) so that the code will know where each file name ends. The code to do all this is:

```
do forever
  PARSE VAR filelist file '/' filelist
  if file == '' THEN LEAVE
```


GRAPHICALLY ORGANIZED



Data isn't just text and numbers anymore.

The Amiga computer opened up the world of graphics and sound. SBase (formerly known as Superbase) helps you keep track of your pictures, sound files and anims so you can readily retrieve them or harness them for creative applications.

With use of graphic files - you can create a database of inventory not just by part number but by a graphic image as well.

Sound samples can be added to impart special directions or simply to help you tie in pictures and sounds used on a project.

SBASE's full relational capabilities and intuitive interface makes it one of the most powerful database's on any platform. Capacities of database files and indexes are limited only by disk storage and your creativity.

Version 1.3 of SBase adds compatibility with AmigaDOS 3.0 and the new AGA chip set, use of Anim files, EPS clip art and compugraphic re-scalable fonts. The new Re-index feature gets you out of jams fast.

Superbase is a trademark of Software Publishing Corp.
SBase is a trademark of Oxxi Inc.
AmigaDOS is a trademark of Commodore-Amiga.

SBASE Personal 4 includes a built-in text editor, mail merge, label printing, and form designer.

SBASE Professional 4 includes all of the features of the Personal version plus adds support for ARexx and the Database Management Language (DML) for creation of custom applications.

SBASE 4 developer's extension is a one time license that provides the ability for applications developed with DML to run by themselves without requiring the user to use the full blown SBASE Professional 4.

SBASE Personal 4 - List \$149.95
SBASE Professional 4 - List \$299.95
SBASE 4 Developers Extension \$399.95

Upgrades and Updates from earlier versions of Superbase Personal and Professional are available from Oxxi - call or FAX for information.



PO Box 90309
Long Beach
CA 90809
(310) 427-1227
FAX (310) 427-0971

Circle 159 on Reader Service card.

```
if (index(file, ".info") = 0) then finalList = finalList || cr || file
end
```

Speaking of the text, it's all jumbled. A sorted list is easier to read. ProPage supplies a sorting routine that takes three arguments. The first is the string to be sorted, the second is the direction of the sort (ascending or descending) and the final one determines if the sort is case sensitive. All we need to do is take the results of the "showdir" commands and sort them before inserting them into the column.

Finally, lets get the script to create the page and columns that the files will be listed on. To do this, we need to create the page and then create three columns for the text. We'll create the page from the default, get its size, then fit three linked columns on it. The width of a column will be the width of the page minus two times the gutter value of .25 inches (for a half inch total) minus two inches for left and right one-inch margins, all divided by three. For a the height, simply take the paper height and subtract the two 1-inch margins. After the columns are created, link them together with the "LinkBox" command. Finally we use the "endedit" command to return us to the arrow pointer. This way we are ready to start a new directory listing.

With all these enhancements and some titles, the file routine looks like this:

```
cr = '0a'x
call
defineStyle("DirStyle(Vp)Bff<(G)Triumvinte\fsd2.000>\j1\rd20>\ls0.000>\t0>\cfiledo\PP<>>")
call
defineStyle("FileStyle(Vp)Bff<(G)Triumvinte\fsd10.000>\j1\rd20>\ls0.000>\t0>\cfiledo\PP<>>")
if -show(1, "rexsupport.library") then
```

```
if -addlib("rexsupport.library", 0, -30) then
do
call ppm_inform(1, "Please install the rexsupport.library in your
libs: directory before running this Genie.")
exit
end

thePath = GetFileName("Select a directory", '')
chop = LASTPOS('/', thePath) /* chop back to the / */
if chop = 0 then chop = 1 + LASTPOS(':', thePath) /* don't chop the : */
ChosenVAlst = DELSTR(thePath, chop)
choiceText = "Create a listing of " || ChosenVAlst || " ?"
choice = Inform(2, choiceText, "Cancel", "OK")
if choice = 1 then
do
thePage = CreatePage(1, 1, 0)
psize = GetPageSize(thePage)
xsize = word(psize, 1)
ysize = word(psize, 2)
width = (xsize - 2.5) / 3
height = ysize - 2
box1 = createbox(1, 1, width, height, 0)
box2 = createbox(1.25 + width, 1, width, height, 0)
box3 = createbox(1.5 + (2 * width), 1, width, height, 0)
overflow = linkbox(box1, box2)
overflow = linkbox(box2, box3)

theFirstBox = SetEdit(box1)
fileList = showdir(ChosenVAlst, 'FILE', '/')
call SetStyleTag("FileStyle")
finalList = "" Files --
do forever
PARSE VAR fileList file '/' filelist
if file == '' then LEAVE
if index(file, ".info") = 0 then finalList = finalList || cr || file
end
success = InsertText((finalList, 0, 0))

dirList = "" Directories --
dirList = dirList || cr || showdir(ChosenVAlst, 'DIR', cr)
dirList = (dirList, 0, 0)
dirList = dirList || cr
call SetStyleTag("DirStyle")
success = InsertText(dirList)

call endedit()
end
```

Now we have a program that will produce a formatted listing of any directory, and we have complete control (through tags) of the appearance of the listing. We could even modify the tags so that directories were printed in another color or have them mixed in with the files.

I hope that this has been a learning experience in ARexx, ProPage and the power of the Amiga. Keep in touch. I can be reached via the Internet at danw@slpc.com.

Editor's Note: Dan Weiss is a vice-president at Gold Disk, Inc., developers of Professional Page.

•AC•

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World Of Commodore Amiga Toronto '93

The eleventh annual WOCA Toronto '93 (December 3-5) attracted Amiga users from both Canada and the United States. While actual attendance figures were not ready at press time, all of the exhibitors' booths were busy with interested users.

A big winner was CD³². WOCA Toronto was the first location Commodore sold the new machines in North America. CD³² sales were brisk, yet no dealer marked them significantly below their \$399 U.S. suggested retail price. By the end of the exhibition, Commodore only had a few machines remaining in inventory. According to Commodore executives, additional shipments were being held at a customs station in the U.S. waiting for clearance.

CD³² sales drove CD³² software sales as dealers sold all the special CD software they had available. Zool, by Gremlin Graphics, which has been declared the number one game in the U.K., was a phenomenal seller.

Almost every demonstration, seminar, lecture, and keynote was attended by a standing-room-only audience. Jim Sachs awed Amiga fans and artists as he demonstrated Digital Creation's Brilliance! with his own large array of art projects. Seminars were held by GVP, Rombo, Axiom, Soft-Logik, Migraph, Scala, Electronic Arts, and Commodore on subjects ranging from videographics to desktop publishing.

Commodore

Outside of a tremendous amount of CD³² units for hands-on play, Commodore showed nothing of the new equipment in preparation. Commodore's booth was filled instead with a large variety of application programs and demonstrations. Artists, musicians, and young videophiles filled the Commodore booth with a variety of exciting examples of their work on the Amiga. Commodore Canada continued their tradition of creating a multi-grade art contest throughout the event.

Commodore's Vice President of Engineering Lew Eggebrecht gave a keynote address

before a standing room only audience. His discussions centered mainly on the introduction of CD³², but he also mentioned facts about the latest developments at CBM. His CD³² comments centered on CD³²'s flexibility and its compatibility with current Amigas.

On CD³², Mr. Eggebrecht stated, "We are in volume production and it is going very, very, well." He gave several glowing quotes from European magazines concerning CD³² and mentioned that a Gallop survey in the U.K. rated CD³² the number one CD platform in sales. In head-to-head competition between the CD-based platforms, *Electronic Monthly Buyers Guide* chose CD³² over 3D0 and CD-i. Mr. Eggebrecht said Commodore was in a major activity to reduce the cost of the CD³² by as much as \$100 in order to maintain its competitiveness.

In a demonstration of CD³²'s MPEG ability, Chris Ludwig of CATS presented a portion of Paramount's Star Trek VI: The Undiscovered Country. When the movie was placed on pause, the picture was rock steady. The disk was a Philips video disk but the CD³² has been designed to play both the industry standard Video CD and CD-i's own Video CD-i. In addition, the "Mad Scientist" television advertisement used in the U.K.'s CD³² marketing campaign received a large round of applause.

On the AAA chip set, Mr. Eggebrecht stated that the first silicon chips had been created and were in testing. The chips displayed over 95% functionality. Almost all the functions have been tested; and, with only a few small bugs, the architecture has been proven. All the chips will be returned for a second silicon run by the end of January. If that second silicon run is successful, the first AAA machines could be on the market as early as the fall of 1994.



Lew Eggebrecht, v.p. of engineering, drew a standing-room-only crowd to announce Commodore's plans.

The AAA chip set should give the Amiga a performance boost with a factor of 10 over the current AA chip set. These chips will be used in a new system with a modular processor approach. One target is to do 3-D rendering in real time. They hope to render 30 million pixels per second. To accomplish this, they are building their own 3-D pipeline and incorporating their own RISC processor in the graphics subsystem.

For the AAA system, they have selected the Intel PCI bus for a system bus. This would allow Commodore to access a wide array of possible peripheral boards and display devices. When asked about the AAA chip system's sound capability, Mr. Eggebrecht stated, "The sound capabilities of the AAA chip set contains eight voices, 16 bits with 100 kHz sampling rate." Commodore will design the AAA chip set system to be compatible with a 68060 with eventual upgrade ability to a RISC processor capability.

A cost-reduced design for the Amiga 4000 has been produced and will be in manufacturing by February. The 4000 Tower has also been upgraded in its priority to be completed as soon as possible.

Mr. Eggebrecht also made several other announcements. CBM is creating the CD-ROM drive for the Amiga 1200 and the Amiga 4000. The Amiga 4000 CD-ROM will incorporate the full-motion video adaptor. The Amiga DSP effort has been licensed to a third party for further development. DSP will also be incorporated into the motherboard of the AAA platform. CBM has been able to arrange a license with Phillips for photo CD. Photo CD should be available in the first quarter of the next year. And he stated, there were plans to enlarge his staff to handle the additional workload.

Amiga Exhibitors

BMD (British Magazine Distributors) created a large area in the front of the hall for European game manufacturers and other Amiga companies. Gremlin Graphics, Millennium Software, Mindscape International, Moonlighter Software, Team17, and Virgin Software were represented with hands-on displays that allowed attendees to play the vendors' latest releases.



MDL Technologies always drew a large crowd with their Video Toaster demonstrations.

Expert Services demonstrated Picasso II RTG. Representatives state the Amiga will be able to run all the latest software at resolutions of up to 1280 x 1024 with 256 colors on-screen. Picasso II also supports custom screen modes with up to 16.7 million colors at resolutions as high as 800 x 600.

Great Valley Products demonstrated TBCPlus, an internal broadcast-quality video processing card; the A1291 SCSI Kit, an expansion module for their Performance Series II; and the A1230 Turbo+ Performance Series II, an accelerator for the Amiga 1200. The TBCPlus operates as an infinite window time-base corrector using 8-bit 4:2:2 CCIR-601 professional quality all digital video signal processing. It is to ship on Dec. 6, 1993, with a MSRP of \$949, or on January 13, 1994, with the optional SMPTE/EBU time-code receiver/generator with a MSRP of \$1,049.

GVP's A1291 SCSI Kit module adds a high-performance external DMA SCSI interface to a Performance Series II peripheral and uses the latest in active termination technology for stable, noise-free SCSI data transfer. MSRP is \$99. GVP's A1230 Turbo+Performance Series II features a 50MHz 68030 (with MMU), up to 32MB of RAM expansion capability, battery-backed real-time clock, and feature connector for modular expansion. MSRP for the MHz 40/0/4 is \$549 and \$749 for the MHz 50/0/4.

Scala was demonstrating their Multimedia MM300 on a full-scale video wall in the front of the exhibition hall. Multimedia MM300 comes with a suite of new features: File Requester now appearing as a Shuffler showing thumbnails of animations, pictures, and brush files; drawing tools allowing you to create and manipulate lines, rectangles, and circles; fast Floyd-Steinberg dithering; a new function called Absolute Timing giving total control of the timing of a script; Optimize Palette function, which automatically calculates the optimal color palette for a page when several pictures, brushes, and text colors are used on the same page; resizing of brushes and pictures so that when imported, they can be resized freely; and several other features. The Scala Echo EE100 is also available for professional, one-pass video editing to be used with the MM300. Available early in 1994 is Scala's new Video Editor VE500. Traditional video editing techniques can be performed through the Human Touch interface, and the full functionality of the MultiMedia MM300 is built in.

DKB announced its 1240™ Accelerator, a 32-bit board adding up to 128MB of RAM with a 68030 accelerator upgradable to 68882, a 50MHz math coprocessor, MMU, and SCSI interface. MSRP about \$425, to be available February 14, 1994. DKB was also displaying their 4091 fast SCSI II hard drive controller for the Amiga 4000. A DKB executive stated that although the product was not officially introduced, DKB would ship the board in the first quarter of 1994 at a MSRP of \$549.

Sharing DKB's booth in Toronto was Phantom Development, which announced the upcoming release (second quarter of 1994) of PRO-MIX, a software-controlled audio mixing board for the Amiga. This new product provides five stereo input pairs with volume, balance, mute, and stereo/mono controls. An

ARexx interface is provided to allow PRO-MIX to be utilized in multimedia presentations, or integrated into advanced A/V systems. MSRP is \$299.99.

Amiga artist Jim Sachs was in Digital Creation's booth to demonstrate his latest Brilliance! creations.

Jim Drew of Utilities Unlimited was surrounded by interested Amiga fans as he demonstrated the Emplant board with Macintosh emulation. There was a rumor circulating that one vendor plans to incorporate the Emplant into Amiga 4000s and sell them as full functioning dual machines. Release dates for IBM emulation is scheduled for the first quarter of 1994. An A1200 Emplant is also in development.

Although U.S. Cybernetics was listed as an exhibitor, a last minute conflict made it impossible to demonstrate their new software. A representative of U.S. Cybernetics stopped by the *Amazing* booth on Sunday and apologized for their no-show. The Warp System, announced at the Pasadena WOCA in September, will be available in the 30mips and up version in early January 1994. The Warp System is a parallel processing acceleration system shipping with various options. The Warp 200mips and up system will be available at the end of the first quarter '94. The representative stated that the company has been inundated with calls since their early announcement with some of the interest originating from Hollywood production companies.

SunRize Studios promoted their Studio 16, its high-fidelity audio card bundled with object-oriented software, in live demonstrations. The product features state-of-the-art digital non-linear editing, eight-track hard disk recording, 16-bit CD-quality sound, and more. Available as an option is a SMPTE Output Module.

INOVAtronic announced their upgrade of the authoring system CanDo to 2.5. Some enhancements to this newest version include AGA graphics, stereo music files, ASL Commodore Requesters, and a clearly laid out Window Editor.

INOVAtronic also introduced Edge, a powerful, easily configurable ASCII-only text editor that, among other features, can open on the Workbench screen, "fold" large sections of text out of view, help you prevent syntax errors while writing ARexx and C code, and automatically block-indent paragraphs for ease of programming.

GigaMem is a virtual memory enhancement system by INOVAtronic that allows your Amiga to utilize unused hard disk space as RAM with no additional hardware. GigaMem works on all Amiga-020/030-040-based platforms with MMUs operating under Kickstart 2.04. MSRP is \$149.95.

In addition, INOVAtronic announced the opening of a new business unit for custom multimedia solutions, Interactive Media Group (IMG). Custom commercial and governmental applications include training systems, control simulations, information networks, and marketing and advertising kiosks.

Soft-Logik Publishing Corporation presented an in-depth preview of PageStream 3.0 at the Toronto show. Scheduled for release the first quarter of 1994 for MSRP of \$395,

PageStream 3 is a completely new version of their desktop publishing program with high-end color separations and more. New features include trapping and plate control, dual paragraph and character style system, a more flexible toolbox, auto kerning and hyphenation, spot and process color, translation of ProPage documents, and more. The PageStream 3.0 publishing system comes with the PageLiner 2.0 text editor and the BME 2.0 bitmap editor. These programs are linked to PageStream with the included HotLinks 2.0. The new TypeSmith 2.0 (MSRP: \$199.95) can load, save, edit, and generate bitmap screen fonts and it offers a new magnify tool, edit bitmap tool, and a new status bar which displays short help prompts.

MDL Technologies attracted large crowds as they demonstrated special effects created with the NewTek Video Toaster.

Book publishers Whitestone and Bruce Smith were in attendance. AC author Merrill Callaway displayed his ARexx Cookbook from Whitestone USA. Bruce Smith was selling just a small number of his Amiga titles including the title he claimed has become the number-one selling Amiga volume in the U.K., *Amiga A1200 Insider Guide*.

Electronic Arts was displaying the paint and animation program DeluxePaint IV AGA (MSRP: \$199), and the new version of DeluxeMusic (MSRP: \$129). DeluxePaint IV gives you 256-color support, access to over 262,000 colors at any resolution including hires, and an intuitive interface. DeluxeMusic lets you create, publish, and perform great music without a concerted effort. Play any of the compositions included using a wide variety of playback options with support for 48 staves, page range and landscape printing, WYSIWYG music, and more.

Migraph introduced its two new flatbed scanners, the MS1200 (MSRP: \$1,099) and the MS2400 (MSRP: \$1,499). Both scanners offer quick installation, ease-of-use, and superior quality scans in 24-bit color. By using software interpolation, one can achieve resolutions up to 1200- or 2400dpi (depending on the model). The scanners use the ColdScan technique which uses cold cathode lamps that not only extend scanning usage up to 35,000 hours, but do not require ventilation to remain cool and provides dust-free scans. The MS1200 features three-pass scanning, a scanning area of 8.5" x 14", gamma correction, and more. The MS2400 has the same features yet requires one-pass scanning. Migraph was also displaying its popular ColorBurst hand-scanner.

VR Slingshot, by Ixion, Inc., is a virtual reality cybersport which pits two players against each other on separate Amigas in true flight simulation as they struggle to deplete each other's energy reserves. Restoring energy requires carrier-type landings on suspended energy stations. Either head-to-head play with live opponents or against the computer at varying levels of proficiency can be played on any Amiga. The package includes a custom dual joystick/glasses adapter which can be used with other applications.

Warm & Fuzzy Logic demonstrated the LightRave emulation system for LightWave 3D users. LightRave allows registered owners of LightWave to run their software on an Amiga not equipped with a Video Toaster.

Activa International introduced *MediaPoint* as the state-of-the-art in interactive presentation software. Highlights include script synchronization on standard time, SMPTE and MIDI; over 150 smooth screen and object transitions; antialiasing per character color; scale and remap to any graphics mode; no hardware key protection.

RSC Management presented X-Calibur. The X-Calibur is a 128MB memory expansion/acceleration board that does accept standard 72-pin SIMM modules. By its innovative memory design, the X-Calibur outperforms the regular A4000/040 memory access by 400% at 25MHz. The board does not require a Zorro slot and designers were claiming a three to five time faster memory access than a standard Amiga 4000. The MSRP for the 25MHz version will be \$1199 and a 33MHz version is planned at approximately \$1600. John Chang from SCALA tested the system during the show and stated, "This thing is really cooking."

Heifner Communications and Express-Way Software displayed their software utility *PEPPER*. *PEPPER* (\$99.95) is a fully-integrated JPEG utility which allows programs that don't support JPEG images to use them automatically. *PEPPER* features ARexx support; support for 24-bit IFF, DCTV, Toaster Framestore, and HAM8 images; adjustable priority for JPEG compression and decompression.

Also being displayed by Heifner was the Toaster Cozzy 4000 (\$449.95). This product prevents the Toaster board from possibly shorting out the motherboard due to contact. The built-in power supply prevents overheating/blown power supplies in the A4000.

Interworks introduced its Ethernet-based Distributed File System for the Amiga, the *ENLAN-DFS*. This product allows complete sharing of devices, directories, and peripherals, turning your Amiga into a networked workgroup environment. This pack-

age networks up to five nodes. Pricing per five-node license is \$349.

Displayed by Axiom Software was *ANIM Workshop*, *WaveMaker*, and *WaveLink*. *ANIM Workshop* (\$149.95) provides you with a set of tools for creating, playing, processing, editing, and adding sound to your Amiga animations. *WaveMaker* allows you to create network-quality logo animation in less than five minutes and retails for \$249.95. *WaveLink* allows anyone who has two Video Toaster systems to use both for rendering. *WaveLink* includes a cable that hooks your two systems together so both can render at the same time. It also allows one system to see the other so file sharing is quick and easy. *WaveLink* retails for \$149.95.

Area52 was showing its *Amiga Online Reference Manual v2.1*. Area52 considers its hypertutorial a book in itself, of over 850 online hypertext pages of information in approximately 1.1MB of data. Information covers topics such as the Amiga custom hardware and its specifications, the operating system including ARexx and AmigaDOS 3.0, the Workbench, third-party software, and commonly-asked questions. Version 2.1 retails for \$34.95 plus \$2 shipping. Special offer for user group members of \$20 plus \$2 shipping.

Media Innovations' new utility program *FramePro* provides direct software control of ASDG's *ADPro*, allowing the user to batch-process an entire range of frames from one format to another with a few mouse clicks. In conjunction with *ADPro*, *FramePro* will crop, brighten, color correct, and further process the frames while simultaneously writing them to RAM, storage devices, or even DPS's Animation Board.

FARGO Electronics was demonstrating its low-cost, high-quality Primera Color Printer. Use Primera with your favorite programs like *Brilliance*, *ADPro*, *OpalVision*, and nearly all other Amiga software that uses the

Amiga Preferences driver. A dye-sublimation upgrade kit is also available that produces true continuous-tone, photo-quality images.

Advanced Systems showcased its FASTLANE Z3 SCSI-II controller. This expansion device features a Fast SCSI-II controller with 32-bit DMA as well as 32-bit wide memory expansion up to 64MB on one full-length Zorro-3 slot card.

Legendary Design Technologies, makers of *InvoiceIt!* and *AddressIt!*, previewed its new product *dataTAX*. Using on-screen representations of actual Canadian tax return forms, *dataTAX* (\$59.95 Canadian) makes tax preparation easy by doing all of the calculations for you, and also by providing online help for many of the complexities of tax law.

Pre'Spect Technics, Inc. was in the ALFA DATA booth under their new mutual contract. Pre'Spect demonstrated their *NakeD-Up Retina Interface* (MSRP \$75.00) for the Amiga 500. With this interface, 500 users can now work with the Retina Interface and 24-bit graphics. The *NakeD-Up* is available for other A2000 cards for use on the A500 and A1000 as long as the Amiga 2000 card does not require the Amiga 2000's special CPU or video slots.

Toronto success

On Saturday night, Commodore Canada presented a video tape that was produced during the show. The tape was created by Howard Gross and his students of the Stephen Leacock Collegiate Institute to demonstrate what the students and the Amiga were able to accomplish in real time. They had interviewed a variety of exhibitors throughout the show and each commented on how well the show was attended and how well business was going. It appeared there were no losers in this year's event.

The next World of Commodore Amiga is scheduled in New York, April 8-10.

•AC•

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ARexx

This issue marks the second anniversary of this column. Anniversaries sometimes help us step back and take stock of where we've been and where we're going. This month I have an assortment of smaller subjects in mind, none of which makes a full column, so perhaps the second anniversary is a good place to reminisce about ARexx and the role it plays now and could play in the future of our favorite computer. Then we'll take a look at a subject, "quoting," that people keep asking me about, and also explore a couple of interesting but esoteric features of ARexx that are not well documented.

The ARexx Evangelists

The first chord ARexx strikes in my memory is that there seems to be a steady flow of ARexx beginners, who grow up into ARexx users, and finally into something tantamount to "ARexx Evangelists." As a steering committee member of the REXX Language Association, I have the opportunity to fraternize with REXX fanatics from all major computer platforms, personal and mainframe. REXX is a phenomenon. I can't think of another language that has so staunch a following. Why is that? In one sentence, REXX and ARexx (Amiga REXX) take all the drudgery out of programming while leaving in all the fun. Since 1992 I've had abundant opportunity to meet and talk to many people about ARexx at the World of Commodore Amiga shows here and abroad. There is a consistency in the experiences they share with me. Typically they divide up along two lines. The first set of people want some guidance. Others come by to share how much they now enjoy programming since they've learned ARexx.

The Three Steps to ARexx Addiction

Beginners soon learn that ARexx is the easiest-to-use language around. It is miles ahead of BASIC. The second thing they learn is that ARexx is the only macro language they need to learn. They notice that virtually all new Amiga products feature ARexx capabilities, so its usefulness multiplies. If they persevere, they realize not only is it an easy-to-use general-purpose language for doing things such as removing duplicate names from a list, but ARexx can be used to load that favorite font into *ProWrite* or

FinalWriter, or to process the animation images in their latest masterpiece through *ADPro* or *ImageFX*. The third step in the evolution of an ARexx addict is when they start using it to do InterProcess Control (IPC). This is simply one program controlling another one, such as *DirectoryOpus* controlling *ADPro* and maybe *ImageFX*, too. Power users begin to think of projects instead of applications. They may have a set of images that "stop off" at several applications by different manufacturers to get processed on their way to an animation. This kind of power is unheard of on other platforms. The others are just now realizing it's a possibility, but have yet to reach the level of sophistication and richness of the Amiga environment.

The Motivation to Learn ARexx

Commodore did a very wise thing putting ARexx into the operating system on every Amiga. This drove the Amiga software development market to adopt ARexx as the universal Amiga application macro language, which lends a consistency to all the Amiga products not available on any other PC except lately IBM OS/2 because it incorporates REXX. Users who are getting more sophisticated along with their machines are needing to customize their systems, and are finding out they need to learn ARexx or else they must customize manually. At first, the typical user is anxious. "Oh, no. I'm not a programmer and I don't have time to learn to program!" Then, they find that they don't have the time *not* to learn ARexx! The time pressure of doing tedious tasks forces them to pick up a book or two on ARexx and get going. Manually

ARexx Reminiscences and Assorted Esoterica

by Merrill Callaway

processing just one animation or building by hand just one index for a large document will make an ARexx believer out of anyone.

Future Possibilities

REXX, the parent language of ARexx, was designed for non-programmers. Mike Cowlishaw, an IBM Fellow in England, invented REXX (Restructured, EXtended eXecutables) for engineers who weren't programmers so they could do their work on mainframe computers. User-friendliness and simplicity were major design criteria but power was not to be sacrificed. Mike started programming REXX in 1979, spending 4000 hours before its release. ARexx was ported to the Amiga by William Hawes and

only standard ANSI REXX instructions, functions, and syntax, and being careful to construct proper commands to send to the other computer, one could control a program running on an IBM in OS/2 from an Amiga or vice versa. This could be accomplished through the serial ports. Think of the possibilities of a Commodore CD32 used as a peripheral on IBM PCs running REXX under OS/2. Not only would this open up compatibility, but it would open up a market 65 million strong. A good market could save the day for Commodore. We all know that the Amiga deserves a place in the mainstream, and I firmly believe that ARexx/REXX will be a

Even an easy language has some part of it that is considered its most difficult aspect.

The correct way to quote or not to quote expressions in ARexx certainly qualifies.

released in 1987. Commodore incorporated ARexx officially with the release of System 2.0 AmigaDOS.

ARexx has many extensions to REXX that are not in the main language. For example, here is one difference that will prevent an ARexx program from running under OS/2: ARexx syntax uses a line continuation character, the comma, which allows you to break a statement and continue it on the next line, and REXX does not. A much larger discrepancy occurs in the input/output instructions of ARexx vs. REXX. Why should we care? The best reason is in the realm of networking and inter-platform compatibility. All versions of REXX including ARexx have the unique ability to perform Inter-Process Control (IPC). As we mentioned, this is simply one program controlling another one, remotely, so the programs need not be on the same computer. Since REXX and ARexx are about 90% the same, if one were careful to write REXX programs using

major influence. Go ahead and scorn the "messyDOS/Windows" crowd, but be nice to those OS/2 folks. They could be in your future!

The Decision: To Quote or Not To Quote

Even an easy language has some part of it that is considered its most difficult aspect. The correct way to quote or not to quote expressions in ARexx certainly qualifies. The use of the PARSE instruction probably ranks as equally difficult in some people's minds, but parsing in ARexx is always the same and once you master it, you know it. Quoting is a different story. Why?—because quoting is most often necessary when we are constructing a command to send to a host application—an external program we want to control through ARexx. Alas, there are no rigid standards to which ARexx-capable host applications must adhere. I have

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found host applications to have a variety of idiosyncrasies regarding quotation marks, because their command parser may perform differently from ARexx. ARexx considers single (') and double (") quotes interchangeable, but this may not always be the case with a host application. Short commands, simply quoted, present no problem, but sometimes in a longer expression in which there are nested, quoted strings or embedded quotes, your first attempts may not work. Sometimes just exchanging double for single quotes will do it, in case the host cares what kind of quotation mark you use. Another fix to try is to make "" quoted quotes"" around certain parts of your command expression. ARexx embeds quotes in a string by doubling them as in "don't", but this can cause problems occasionally. Try removing embedded quotes if your command doesn't work. If the expression contains sections that must be case sensitive, such as an ARexx port name or a library name, check to make sure that the name is quoted. Remember, whenever ARexx finds a symbol, that is, an unquoted string that has not been assigned a value yet, it converts it to upper case. This would invalidate a call to open a library with mixed or lower-case name if the name was not quoted. A quoted string in ARexx is properly called a string token. In general, if you are in doubt as to whether to quote a command or not, try quoting it first. Using the TRACE instruction will also prove very useful with complex commands. Sometimes ARexx isn't sending the command you thought it was.

In-Line ARexx Programs

It's not well documented, but short ARexx programs may be typed into a Shell console and run directly from the 'STDIN' input stream. All you have to do is open a Shell and start rexxmast, the ARexx interpreter, first. If ARexx is not running, or if you're not sure, type at the prompt:

>rexxmast

Once ARexx is running in the background, any Shell window can be an ARexx console. This is a great way to test ARexx instructions and functions to see what they do.

An Example

Suppose we want to test the operation of the ARexx function COPIES(string,number). It takes a string and a number as arguments, and produces (number) copies of the string. Pretend we are programming a routine to write to a file, and we need to write, say, 15 line feeds into our file for formatting purposes. A line feed is hexadecimal A = decimal 10. In ARexx notation hexadecimal A is written 'A'x to distinguish it from the letter "A". What we need to find out before we go to all the trouble is, "Will Copies() accept a string in hexadecimal notation?" The manual doesn't say one way or the other. Using the SAY instruction with COPIES() insures that the function return will output to the console window. Type this program in your Shell console at the prompt, and press enter:

```
>rx "say copies('a'x,15)
```

No, there's not a double quote missing at the end. This is the correct syntax for an in-line ARexx program. The command utility rx says you are going to do an ARexx program. The open-ended double quote tells the AmigaDOS command line parser that this isn't just an AmigaDOS program. If you leave out the double quote, or put a closing quote at the end of the line, AmigaDOS will say it can't find the program. You may switch the double quote with the single quotes as long as you leave the quoted line open-ended. Did you get 15 line returns? What happens if you try COPIES(10,15)? These questions are easily answered with ARexx in-line programs. If you need to put several program statements in-line, separate them with semicolons. Try this one, all on one line:

```
>rx "a='enter a';say a' str.';parse pull s;say a' num.';pull n;say  
copies(s,n)
```

An ARexx Bug Workaround

Here's a bug I found in the BITXOR() function for those of you who enjoy esoteric subjects. Most of us don't use this function. Here is a short summary of what it does.

```
BITXOR() Built-in ARexx Function.  
FORMAT? BITXOR(string1[,string2[,pad]])  
ARGUMENTS: string1, string2, are ASCII, hex, or binary strings. Pad is  
ASCII character. If pad is a string, only the first character is used.  
Arguments may also be expressed as any symbol whose assigned or literal  
value is of the proper type as given above.  
FUNCTION RETURNS: string. Function performs a bit by bit logical XOR  
(exclusive OR) operation upon the two argument strings according to these  
rules:  
1 XOR 1 = 0  
1 XOR 0 = 1  
0 XOR 0 = 0
```


The length of the result string is the length of the longer of string1 or string2. The PAD character, if provided, pads the shorter string on the RIGHT to match the length of the longer string before the XOR operation. If there is NO PAD character provided, then the XOR operation stops once the shorter argument string is used up, and the remainder of the longer argument string is appended to the result string obtained so far by the XOR operation. If string2 is omitted, the default value is the null "" string.

The function performs correctly in all but one case: when the strings are of unequal lengths and no pad character is used. Suppose string1='A' and string2='Bw'. In binary notation we have:

```
A='01000001'b and Bw='0100001001110111'b
```

Set the short string beside the longer and we have

```
01000001
01000010 01110111
```

According to the rules, we XOR the short string with the long one until we exhaust the short one, then we append the rest of the long string to the end of the result; we get

```
00000011 01110111
```

The leftmost string now produces no character, so the result returned translates to the character 'w'='01110111'b. But if we perform an in-line ARexx program

```
>rx "say BITXOR('A','Bw')
```

we get a an upper case 'W' returned. The bug turns out always to be a wrong 5th bit counting from 0 on the right toward the left:

```
'01110111'b== 'w'
'01010111'b== 'W'
```

Since the rules say we must append the rest of the long string, this is clearly a bug, but with an easy workaround using one of the other bit manipulation functions in ARexx:


BITCHG(string,n), which toggles bit number *n* in some string. So only if we need to BITXOR() two unequal length strings without padding, we use the following nested functions:

```
BITCHG(BITXOR(string1,string2),5)
```

to toggle the 5th bit to its correct value. If you enjoyed this example, notice that D2C(string[,n]) is valid even though the documentation omits the *n* argument. This allows us to work with negative numbers using 2's complement and sign extension. Yes, easy as it is, ARexx does have its subtleties.

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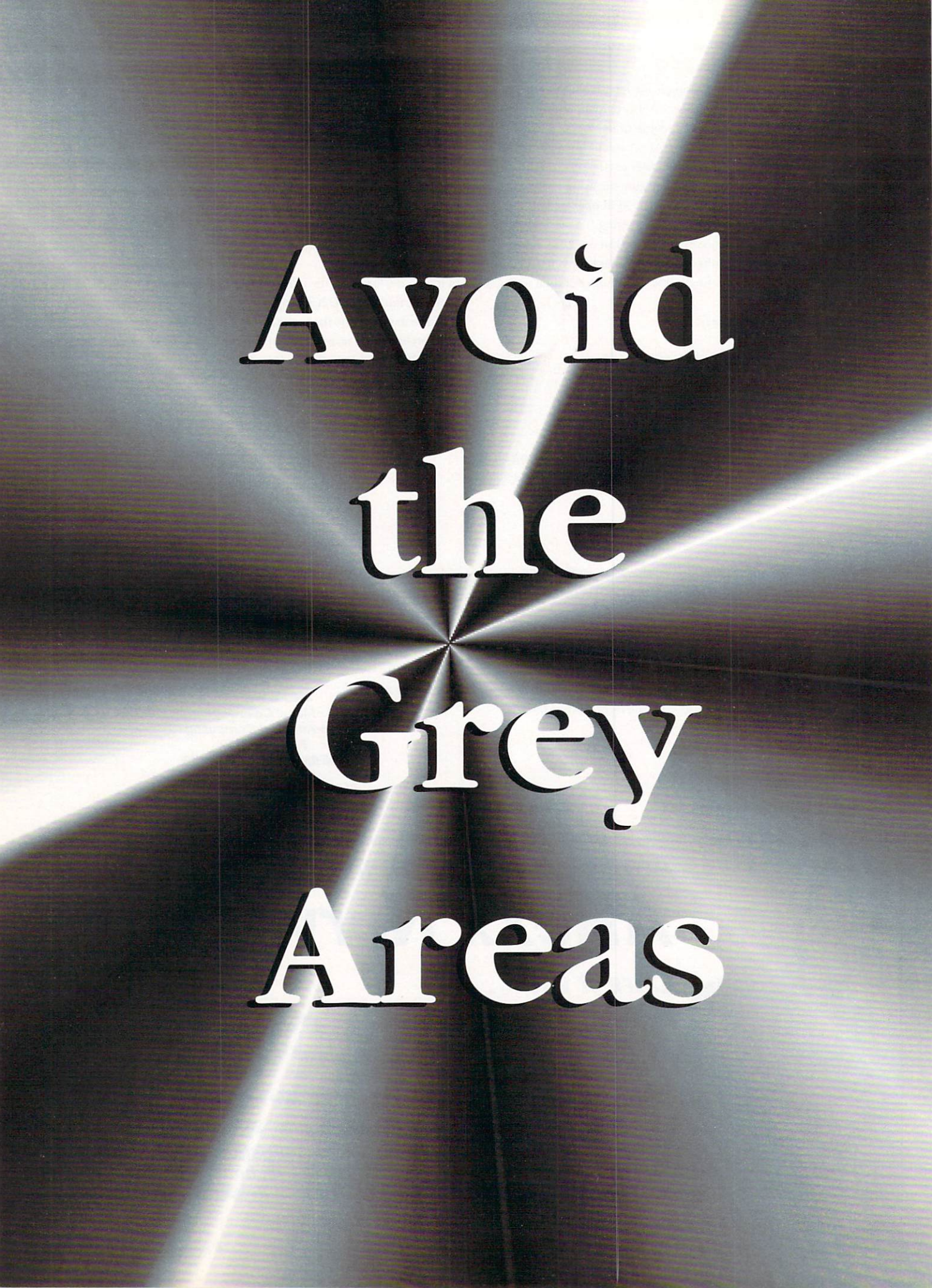
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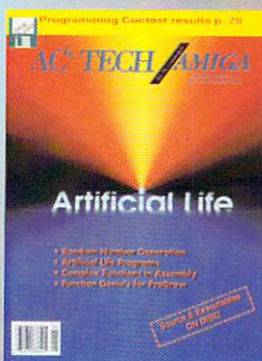
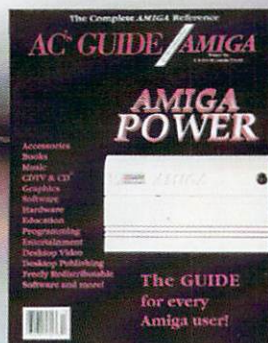
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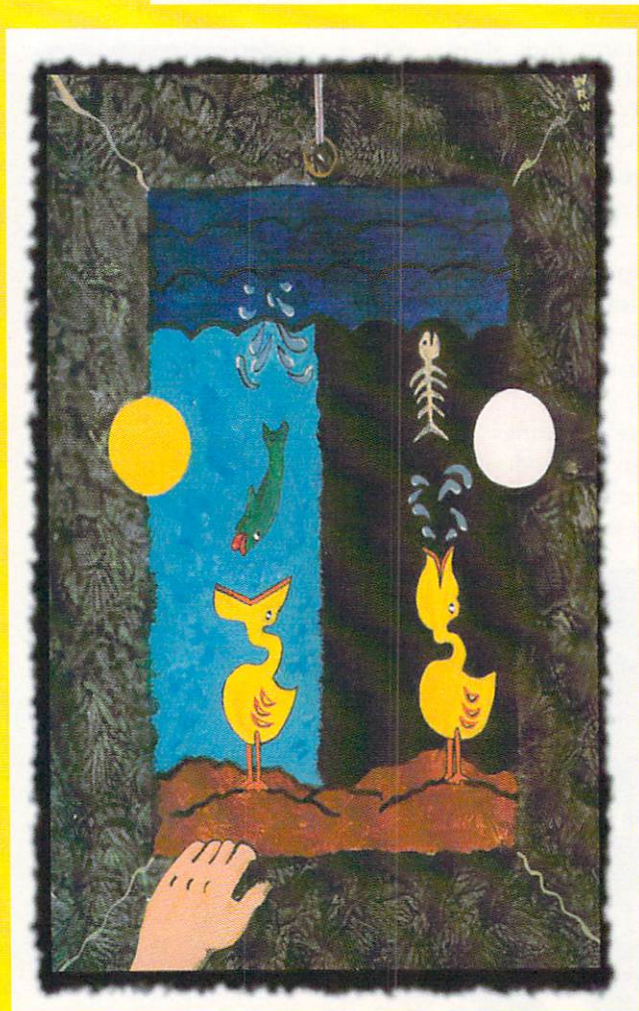
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DIGITAL IMAGE SPECIAL FX

by William Frawley

Using ARexx/OpalPaint, ADPro, and DeluxePaint IV to Process Images Automatically

Imagine the following: "Those pictures are boring and lifeless! What am I paying you maximum wage for! You're fired!" Well, friends, never let this happen. You can achieve executive status in no time with new Miracle Edges. That's right, Miracle Edges—feathered borders, ragged edges and vignettes that defy all laws of Interchange File Format physics, and all it will cost you is the time it takes to read this article.



But seriously folks, as any of us who has ever generated a computer image knows, our creation inevitably ends up with those straight-edged, rectangles. Does there not exist some way to uplift an IFF's code to start producing results with more tantalizing edge varieties? Well, yes and no.

Yes, there is a way of doing so by means of a related bitmap format known as the brush, whereby you may choose that a certain background color be transparent, thus producing any conceivable edge to the image by controlling the color arrangement. However, as far as I know, all 2-D paint applications allow you only to convert (pick up as a brush) an image no larger than the current screen size, quite unacceptable when dealing with super-bitmaps. So, if it's unfeasible to utilize the brush format because of image size, and since we can't inherently manipulate the IFF code to produce anything but rectangular dimensions without inventing a new bitmap file format, what options do we have available for creating those killer photo edges?

Preliminaries

Well, by utilizing the likes of ASDC's *Art Department Professional* in concert with *DeluxePaint*, or similar software, through a remedial manual approach or simply executing, if you have it, the included ARexx script for *OpalPaint*, we can produce edges for your images that will enhance any desktop publishing project or allow attractive backgrounds to be incorporated into your latest multimedia presentation.

But before we begin, it must be pointed out that the two methods, if used, will produce slightly different results inasmuch as *OpalPaint* has the additional benefit of allowing you to save with the resulting file both an Alpha channel transparency gradient and a global Stencil to be used at a later date for various purposes related to genlocking video with these images. For example, with an Alpha channel imbedded in the file, incoming video can be keyholed—unlike chroma or luminance keying—through a soft-edged vignette containing a nice, textured pattern around the border, or simply use the 256-level linear transparency

key alone between two video sources for various effects. Additionally, instead of using a character generator, you could create a title page in advance with a completely transparent background and various levels of transparency for the text, shadows, or whatever.

OpalPaint also implements—with the help of the soon-to-be-released video hardware—stencils in a most unique way with what is called a Video Sandwich key that allows chroma- or luma-keyed video to be inserted between selected foreground and background elements of your image. What this means is that you could have your subject virtually walking in front of and then behind the rocks and hills of Mars that you've created in your favorite landscape-generating software for a dazzling, visual effect. What opportunities these Alpha and Stencil keys provide, and being bundled in the same file as the image or by themselves, makes it that much more convenient.

Unfortunately, to the best of my knowledge, neither of the current page layout applications for the Amiga allows the utilization of an image's Alpha channel with respect to the page, in this case the background, thereby eliminating any possibility of achieving a feathered-edge look to the bitmap image, for example.

This now brings us full circle—how to achieve this effect despite these limitations, both for publishing and simple video display applications as mentioned previously. Here, then, is a summarized list of the edge effects covered in this tutorial for ADPro/DPaint users and those realized in an ARexx script for OpalPaint users:

ADPRO/DPAINT

Jagged
Pattern
Feather
Vignette

OPALPAINT

Jagged
Feathered Texture
Feather
Vignette

Note that by using a 256-level Alpha channel such as in OpalPaint, the transparent edge results will be much smoother than the 16-color ones produced in non-AGA DPaint. Unfortunately for ADPro users, there is no way to paint directly from within; otherwise we could utilize its 8-bit Alpha channel support in more direct ways.

The Fundamental Principle

For starters, we'll add to an image that you've already chosen a feathered or linear transparent edge, and later on we'll do variations on this theme such as ragged, patterned and simple vignette borders. But first, let me explain the general principle involved here and reassure you this won't be difficult in the slightest. You'll wonder why you haven't been doing this all along, if you haven't already.

As I stated earlier, since we can't control the edge transparency of the IFF image inherently, except when using applications that are Alpha-channel compatible as in genlocking, we'll have to fake the effect when including the image in a page layout or when we simply want to display it via the monitor. By this I mean that in all cases except the splattered-edge effect, we will use an Alpha channel mask to "carve away" the desired region—in this case the edges—of our image and replace that portion with the appropriate background color or pattern. For instance, a feathered edge will have the original image gradually fade into the background color or pattern at the edges. The same applies to vignettes. For inclusion into a desktop publishing project, this background color of course should be the same color as the paper, as demonstrated with the included figures, or the color design in the background of



the image since there is no way yet to use an Alpha transparency channel with the file in these programs.

Achieving the splattered-edge look is somewhat different, but the background color principle is the same as above. Here, you'll carve with a splatter brush a jagged border out of a background that is approximately 15% larger than the main, overlying image. You will then blur the now jagged-edge background several times and finally composite the main image onto this, making sure that the overlying image edges fall within the jagged region. So in effect, from the center outward you'll see the main image, the surrounding splatter color, and at the very edge, the background color, usually white (Figure 1). Let's give it a try.



Feathered Edges and Vignettes

To begin, enter DPaint in a HiRes Interlaced Overscan 16-color screen and create an all grey-scale palette. Do this by entering the palette requester (right mouse click on the Foreground/Background color boxes), make color 0 black, color 15 white, and then create a spread between them. Next, swap the white on the right end with the dark grey in color pot 1 and then exit the requester. Now select the Ranges menu item and place a white pot at the far left, another pure white pot about 80% the distance from the left, and finally a black pot at the far right as shown in Figure 2. Accept the Range, remembering the number you've created and open the Fill requester with a right mouse button click on the Fill Tool. Pick CONcentric for the Fill Type and make sure you type in the proper Range number in the string gadget. Exit the Fill requester, make sure the Fill Tool is activated, hit F10 to deactivate the Titlebar and Tool Menu, then click your brush anywhere within the screen to Fill the page with your new feathered gradient, and when you are prompted for the gradient direction, simply click in the exact center of the screen. Save this as your feathered Alpha channel and exit DPaint.

For the next phase, start ADPro and if its dimensions aren't known, load the image that you want feathered, and note its size. Then load the Alpha image you just created and if its not exactly the same size as the main image, scale this to the same dimensions. Once this is done, save it as an 8-bit IFF file for later reincorporation as the Alpha channel. Now select Backdrop from the Load Options and create a one-color (your choice, white if intending to output to paper) Fill background the same size as your main image. Once this is created, select the COMposite

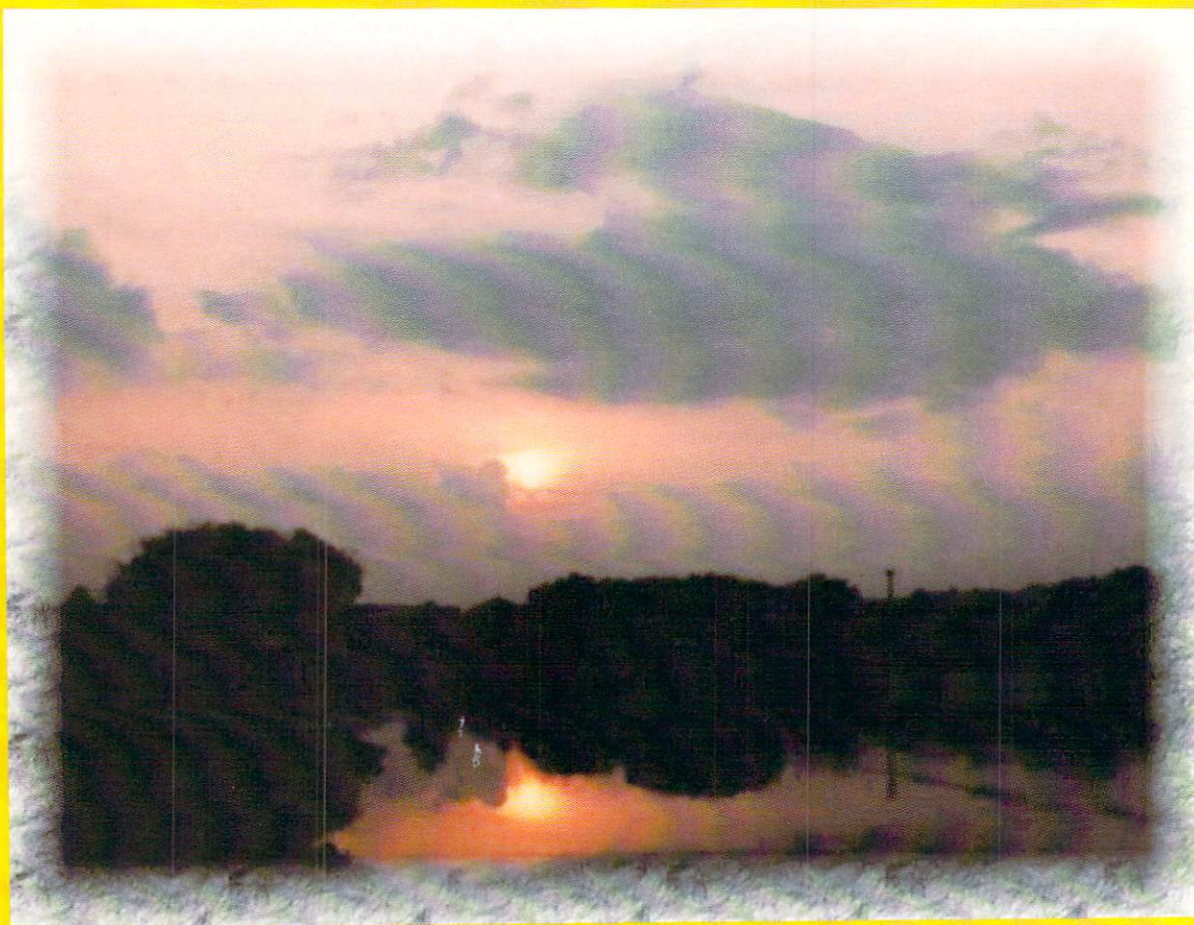
button and the Load Option Alpha. Click Load and you will then be prompted to first load your main image. At that point, the Composite requester will then emerge. Leave everything at their default settings and select OKAY. You'll then be asked to load your Alpha image. That's it, you're done! View it if you have a 24-bit card or render to a native Amiga display mode.

For vignettes, follow all the steps outlined above except instead of filling the entire screen with the Fill Tool, use the Filled Ellipse Tool to define the shape of the vignette (Figure 2). If the image that you want to vignette is much larger than a HiRes Interlaced Overscan screen, you might want to split up the drawing of the vignette into two parts on a blank page that is as large as the image. To do this, load in or create the appropriate page size, clear to black, then turn on the coordinates. Leave the titlebar on and scroll completely to the top, find the exact center of the page, and start drawing the vignette there. Then scroll to the bottom of the page, and do the same thing, noting the dimensions of the vignette that you drew at the top. The two halves should then match up.

Jagged Edges

This time, for a jagged edge, open a two-color HiRes Interlaced Overscan screen in DPaint. Choose a medium-sized circular brush and then with the right mouse button, click on the splatter tool and enlarge its spray diameter to approximately the size of a quarter. Pick the dotted freehand tool, leave the colors at their defaults, and again turn off the titlebar and tool menu. Then spray the perimeter of the page with white, using the edge of the

(continued on page 77)





Roomers

by The Bandito

[These statements and projections presented in "Roomers" are rumors in the purest sense. The bits of information are gathered by a third-party source from whispers inside the industry. At press time, these rumors remain unconfirmed and are printed for entertainment value only. Accordingly, the staff and associates of Amazing Computing cannot be held responsible for the reports made in this column.]

Commodore Update

While you were blinking, things have been happening fast for Commodore. As The Bandito has reported to you, Commodore's last financial report (issued in May of 1993) was for their third quarter. Silence since that time, as Amiga fans waited and wondered. Suddenly, for no apparent reason, Commodore stock bounced up 44% in one day, to 4 5/8. Since that time the stock has dropped back some, but remains close to 4. The volume of Commodore stock trading has been quite high—10 times the normal number of shares traded in one day.

Of course, you'd like to know what caused this. Well, there's no obvious reason, and all the usual suspects aren't talking. Commodore has no comment when queried by reporters. Is this a run on the company? Well, it only represents a few million dollars in stock, so it really wasn't much. Maybe Bill Gates was looking for a place to invest his lunch money.

It wasn't long after this amazing rise in stock price that Commodore delivered its long-awaited fiscal year-end financial report. Commodore said that they lost \$356 million dollars for the year ended June 30.

Commodore released the report at 5:48 p.m. EST Friday, long after the close of the stock market. This, as you may recall, was the way they issued their last report, which was also bad news. This is a classic technique for releasing bad news; wait until after the market closes and hope that no one notices. Yeah, right. All those stockholders are too stupid to read their newspapers after the market closes. But Commodore may have had another reason.

The strange part about this is how Commodore's stock rose in the week prior to the announcement. Now, normally you'd think that such bad news might cause the stock to drop, assuming that the info had leaked out in advance—a practice that of course is strictly verboten, but it seems to happen all the time anyway. Were speculators thinking that the news would be unexpectedly good? Seems unlikely; Commodore, or any other company, would be unlikely to delay good news. Especially not when your stock options could use a significant boost in order to be worth something.

Commodore had not released any financials since May, when its third-quarter report showed a \$177.6 million loss. As you may recall, that report also was issued after the stock market had closed on a Friday. This time, Commodore stated that for their final quarter, they lost \$82.9 million.

Commodore also announced that they lost \$9.7 million in their first fiscal quarter, which ended Sept. 30. Officials were unavailable for comment, of course. Hey, that is good news; in the same quarter last year, Commodore lost \$18.8 million.

The report included quotes from Commodore's chairman, Irving Gould. "We have made progress in reducing the net loss," his written statement said of the first-quarter results. "Having largely completed our operational restructuring, we are now planning to undertake a restructuring of our debts to allow the company to continue normal operations."

Looking at the figures quickly, things look bleak. But, this type of reactive thinking was exactly what Commodore wanted to avoid. If the numbers had been released during stock market hours, it is very likely that some of the investors would have panicked and sold their shares. This would have driven the price of Commodore stock way down and fed even more panic.

At the same time the stock was going down, any outside company who was interested in Commodore would have had a bargain basement price for the stock. Since there was interest the week before, it appears caution was their guide.

These losses are rather exorbitant sums. They are not as high as the numbers were from Detroit car makers in the eighties, but they are significant. These losses are reminiscent of IBM's statements just last year when they went through their restructuring. Now many observers are

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In Commodore's case the numbers show improvement. Their third quarter loss was \$177.6 million. The fourth quarter loss was \$82.9 million. With the first quarter of this year showing a loss of \$9.7 million. If you are going to have losses, that's the direction to go.

What could these losses mean? Well they do show a company who has restructured. First no company restructures readily unless they are losing money or they expect a significant advantage from the restructure. Second, any company losing money and then restructures is bound to lose more before they begin to make money. Closing factories, decreasing workforces, changing product lines, and other items required in downsizing all cost money. This is often a hard hit against your bottom line. With Commodore's subsidiaries all over the world, the downsizing and restructuring has taken longer than most companies. This has lead to even more guessing.

On paper, Commodore's appears to be in trouble. Speculation has been rampant concerning their debts and their ability to pay. It is this debt that Irving Gould refers to in the above quote. It is this debt and Commodore's ability to overcome it that makes all of this exciting.

Apparently it was this debt that forced Commodore's decision not to release CD³² in the U.S. right away. Commodore had to decide on which strategy would yield the best results. By placing the CD³² in the U.K., Commodore was able to control costs in distribution and advertising. With far less money they were able to saturate a market that would openly accept their product and produce results.

This meant that Commodore could not afford to bring the CD³² to the U.S. market as easily. Apparently they did not have the resources for the extensive media campaign required to properly launch such a device. Why should they? With the U.K. they were bound to be a winner.

Early return on CD³² sales have been very good. Rumors are that the Amiga CD³² is out selling SEGA CD by as much as 4 to 1. Apparently their plan has worked, but what now.

Commodore has a small window of opportunity for CD³² in the U.S. market. Right now, the competition for CD³² that's actually on the market is Sega CD and

3DO. CD³² and 3DO are clearly far superior to Sega CD technically. CD³² has a huge software base, at least if you count old Amiga games, which would be new to much of the audience, compared to a handful of titles for Sega CD and 3DO. Sega CD is priced at \$229 compared to \$399 for CD³², and of course there's the Sega marketing machine behind Sega CD. Still, Sega CD would be vulnerable to a well-conducted advertising and marketing push. 3DO, on the other hand, is more expensive right now than CD³², and 3DO has only a handful of titles. So CD³² has some strong features against both of those machines. But the situation will change rapidly. The Sega CD will be replaced by the technically-advanced Saturn CD project in 1994, which will be on a par with CD³² and 3DO. And 3DO will be coming down rapidly in price, and there will soon be quite a lot of titles for it. So by Christmas 1994, Commodore's opportunity to show how CD³² easily beats the competition may have evaporated. And don't forget that Nintendo may come out with a machine in 1995, too.

Boards Away!

Commodore is raising cash (and reducing overhead) by getting rid of the numerous add-on products for the Amiga line in various stages of development. It's a wise decision, considering that Commodore doesn't have enough engineers on staff to finish developing these items. So, among other things, Commodore has outsourced production of the 4091 SCSI-2 board to DKB. The Bandito hears that Commodore is looking to get rid of other hardware projects for Amiga add-ons, such as the DSP board for the A4000. Hello, GVP?

Atari Update

The hype about CD-ROM machines has had an interesting side effect: Atari stock has gone from 75 cents to over \$11. Atari has cleverly capitalized on the hype by making it seem as if the Jaguar is the machine that delivers on all the promises everyone else has been making about multimedia. Atari has touted that fact that IBM is building Jaguars so that people seem to think the Jaguar is a cooperative venture between Atari and IBM, while in reality IBM doesn't care what they build for whom these days as long as they get paid. And Atari has been claiming immense performance specs for the Jaguar

that would seem to indicate you should buy a Jaguar instead of a workstation for 3-D graphics.

Atari's Jaguar, stripped of marketing hype, seems to be roughly equivalent power-wise to the 3DO and CD³², according to some savvy developers who are being desperately wooed by Atari. The 3DO has somewhat better base CPU performance and more RAM, while the Jaguar runs on a standard 68000 and might have a slight edge in polygon drawing and rotation. Still, all this technical stuff is meaningless until there's software that takes advantage of it.

Inside sources say that Atari's financial condition is still a far cry from healthy. The supposed war chest of \$45 million dollars for advertising appears to be mythical. Oh, and that CD-ROM drive for the Jaguar that's supposed to be coming next year? The Bandito would merely like to note that Tramiel has a long track record stretching back to his Commodore days of announcing products that don't exist and may never exist, merely to see what sort of interest they draw and what potential sales might occur. Don't believe in it until you can walk down to the store and buy one.

Without a CD-ROM drive, the Jaguar is crippled by its lack of storage. How much whizzy 24-bit artwork, animation, and 16-bit sound can you cram onto a 2MB cartridge? Nowhere near enough. And if not every Jaguar has a CD-ROM, this means even less incentive for developers to create CD-ROM titles for the Jaguar. A percentage of a small market is an even smaller market. Not that Atari has developers beating on their door; The Bandito hears that Atari has even been advertising in Silicon Valley theaters—amidst trailers for coming attractions—for programmers interested in developing for the Jaguar. Now that's desperate. At last count, the Jaguar had about 20 developers compared to 3DO's 400, and most of the Jaguar titles announced are ports from some other system.

Here's what it all adds up to: A short seller might make a killing on Atari stock if the Jaguar is all hype and no sales. The Bandito predicts that Atari's stock is in for a wild ride over the next year, up and down, so only those with money to lose should take a chance with it. Try bungee jumping instead; it's safer.

3DOA?

Well, it's hard to know who to believe these days when you hear people talking about multimedia. On the one hand, the 3DO Company is touting the "fact" that the initial sales of Panasonic's Real 3DO machine (an odd name? kind of implies there's a fake machine out there... maybe they mean the Jaguar) were better than the initial sales of any other consumer electronics device. Now, granting that it's true, the figures may not mean very much. Over what period of time are we talking about? And is this adjusted for the number of retail outlets? Does this mean units actually sold to customers, or just sold to the stores? Well, from what The Bandito can tell, apparently a whole lot of the initial units were bought by developers, since they couldn't get them any other way (remember, 3DO doesn't make these, Panasonic does). Still, it seems that initial sales were good.

But at the launch, there are only a couple of titles available, instead of the promised dozen or two. More are on the way, but it will take time to get a full shelf of titles. Meanwhile, the price tag and the lack of software has some people wondering if 3DO is 3DOA. Only time will tell, sez The Bandito. Check back in the spring to see if the price is out of the stratosphere.

The RAM in 3DO was boosted to 3MB just before shipment, in response to developers who were feeling quite squeezed by the operating system, which had ballooned to a MB of space or even more. Meanwhile, some of the development tools (the ones based on EA's Macintosh graphics programs) remain buggy, causing delays in the arrival of 3DO titles. And developers are complaining about the lack of a good compiler. Say, what else is new? Seems like every time someone releases new hardware, they claim they'll have lots of software for it right away, and then it always fails to materialize on schedule. And the developers tell that they could have done it just like they said, but the compiler had lots of bugs, etc. Guess that's software biz, folks.

Compton's Killer Patent

The world of multimedia was rocked by a severe patent-quake at Comdex, the giant computer show in Las Vegas in November. Seems that Compton's New Media, a small multimedia developer best known for their multimedia encyclopedia,

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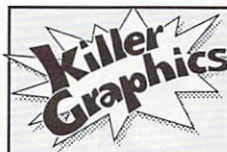
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has been awarded a patent on multimedia databases. Compton's figures this patent covers almost all the CD-ROMs being published—anything that has more than one type of data on it, and lets you retrieve that data in more than one way. Not only that, Compton's believes that their patent also covers interactive television and online services with graphic interfaces, and maybe a few other things, too. Compton's announced this to a shocked crowd at Comdex, and then followed up by saying that they want a 1% royalty on everybody's product that infringes. Oh, and if you don't sign up before June 1994, that royalty will be 3%. Or, if you want to avoid the royalty, you can sign up to have your product distributed by Compton's, or you can buy their multimedia development tools and pay Compton's a run-time fee for every copy of software that you sell that used their tools.

As you might imagine, this concept has not gone over very well. (The Bandito would have loved to have the tomato concession for that press conference.) Amid the howls of outrage, multimedia developers are banding together to build a legal warchest to fight this insanity. Compton's is a small company, but just a month after the patent was issued—but before they announced this to the world—Compton's was bought for \$57 million by Tribune Publishing, a \$2.5 billion media conglomerate. So they do have some resources to fight with.

Meanwhile, The Bandito hopes that Microsoft takes an active role in this, particularly since they have a legal juggernaut that's scarcely been doing anything these days. All they need to do is clean off the Applesauce and roll it over Compton's. Sad to tell, though, with the sorry state of patent laws it may take years to resolve this mess. The Bandito hopes that the Patent Office will someday hire someone who's at least seen a computer. Hey, how about someone who knows something about the industry? Nah, too radical.

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Corrections

B&P Pattern Tool Correction

In the review of *Bars & Pipes Professional 2.0*, AC 8.10, it was stated that the Pattern Tool did not accept real time MIDI input. This is incorrect. Open the tool, select the Pencil icon and start playing from your MIDI keyboard. The Pattern Tool will record your input in real time. The Pencil icon acts as a record button in this case. The only directions in the manual are found in an example on page 278.

AddressIt! Correction

In the Table of Contents description for the *AddressIt!* review, AC 9.1, it was stated that the author experienced printing problems. In the review itself, the author admits to some difficulties but attributed them to his printer and not to the software as indicated by the TOC description.

AC apologizes for any inconvenience which may have been
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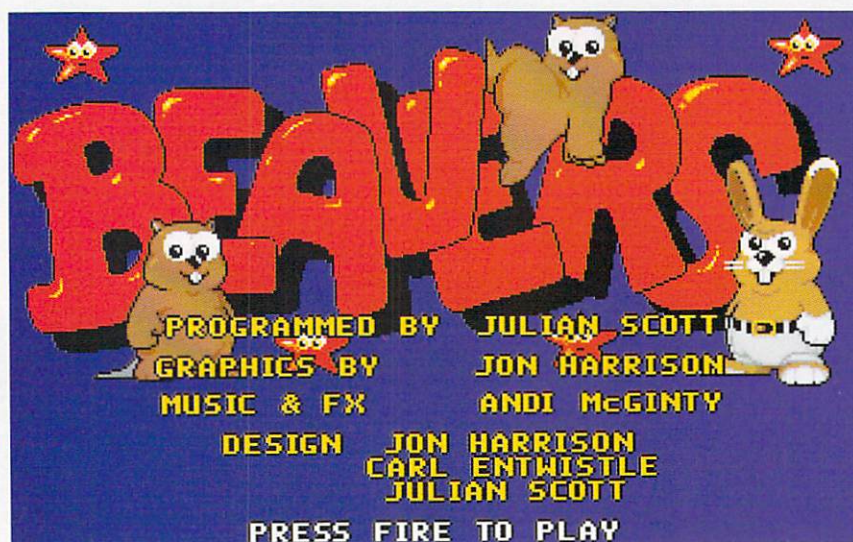
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Coming Attractions

by Henning Vahlenkamp

It's time once again for another sneak peek at more new Amiga games. All of these games are either available now or should be available soon. Since demo copies were evaluated for this article, some features or specifications may be subject to change.



type of scrolling in this game is that you're limited to firing in eight directions, so extra maneuvering is needed sometimes to zap those aliens. Within its five levels you'll find great graphics and smooth 50 frame-per-second animation.

Entity (Loricel) is one of those rare arcade adventures featuring a female main character. The heroine, Anthemis, is on a quest to destroy a powerful entity who escaped from a prison, hence the game's name. To accomplish this, she fights through five large levels—teeming with enemies—using some type of firepower gauntlets and other power-ups found along the way. As in other games such as *Sword of Sodan*, you'll basically kill

Beavers (Grandslam) is a very cutesy platform arcade game with a bit of puzzle-solving thrown in for good measure. As Jethro the beaver, you must rescue your family from some evil rabbits by getting through 20 levels, while collecting a bunch of stars. The puzzle-solving basically amounts to moving platforms around. Nevertheless, *Beavers* isn't quite as easy as it seems, although it's obviously intended for children.

Quite reminiscent of *Psygnosis' Amnios*, *Blastar* (Core Design) is a pulse-pounding arcade blastfest. But *Blastar* adds improvements like horizontal and vertical scrolling in addition to 360-degree scrolling sections. The only problem with the latter



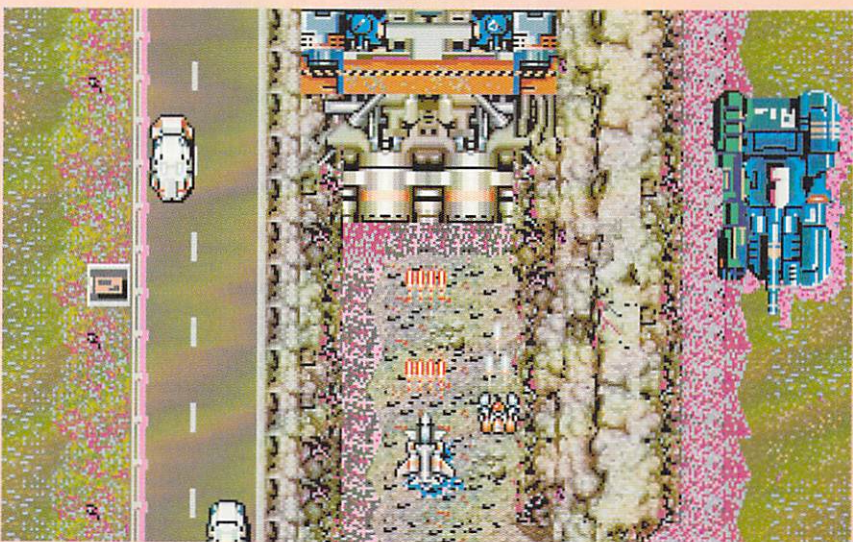
everything that moves. Graphics, including the backgrounds and the often grotesque monsters, are lush and detailed. Fans of this genre will probably enjoy Entity.

If you've been around the Amiga games scene awhile, you may remember *Elite*, a spaceflight/trading game released a number of years ago. Now there's *Frontier* (Gametek), the sequel to that famous game, and it's causing quite a stir. While the demo doesn't reveal too much about *Frontier*, it does show a rather long animation sequence of two alien spacecrafts attacking a planet and subsequently being destroyed by a defending ship. The vector graphics are great on accelerated or AGA Amigas, but slow to a crawl on older, unaccelerated machines. If the demo is any indication of the quality of the game, *Frontier* should be exceptional indeed.

While not as popular in America, soccer is all the rage in Europe. This immense popularity has spawned a host of Amiga soccer games, including *Goal!* (Virgin Games), an excellent newcomer by the creator of *Kick Off 1* and 2. Comparable to *Sensible Soccer*, which is widely considered the best, *Goal!* takes more practice to master. It also offers an incredible range of features including multiple views and field conditions, realistic player movements, and involved league play, plus much more. Seriously worth considering for soccer fans.

Nippon Safes Inc. (Dynabyte Software) takes the graphic adventure game interface to new heights of simplicity. You move your character by pointing and clicking, and the mouse pointer identifies all objects of interest. The right mouse button brings up a spartan selection of operation (open/close, examine, take, and speak) and inventory icons, which provide everything necessary for interacting with the game. While simple, the interface is rather effective. Incidentally, the story revolves around the adventures of three ex-cons in the city of Tioko. At least it's original. The Japanese-style cartoonish graphics are attractive and appropriate too, and Nippon Safes Inc. even multitasks.

Besides being the game's title, the words "*No Second Prize*" clearly emphasize the goal of this motorcycle racing game. In NSP (Thalion Simulations), you compete against a maximum of five opponents on one of 20 tracks. Amenities include



From top to bottom: Entity, Nippon Safes, and No Second Prize.

automatic or manual shifting, full mouse control with adjustable sensitivity, game saving, and a choice of six drivers with differing abilities—but no choice of bikes. The key feature is the flight-simulator-like polygon graphics. From the vantage point on your bike, the sense of realism is heightened by fast, fluid graphics and superb sounds like when you whiz past an opponent. The only thing missing is the rush of wind blowing against your face.

Peace exists throughout the universe 500 years in the future, but of course crime is still around. To deal with this problem, the Confederation, the governing body, uses private teams called Civil Defense Units. In *Overdrive* (Infacto), you're a member of one of these units, and you'll engage in four different episodes to stomp out crime. Although it seems to be a role-playing or adventure game, *Overdrive* is really a multi-directional shoot-em-up. Noteworthy technical aspects include 64-color graphics, varied music, Workbench support, virtual memory, and game saving. Only hard-disk installation is absent from this well-designed game.

Stardust (Bloodhouse Limited) stands out mainly on its technical merits, as its multi-level alien-zapping theme isn't too different from many other games. The use of raytracing, for example the asteroids that threaten to squash your ship, is

impressive. Then again, I recall that the awesome opening sequence to *Blood Money*, a Psygnosis classic, had similar effects. Animation is likewise terrific. All in all a good bit of fun.

Woody's World (Vision Software) is similar to other cartoonish platform-arcade games aimed at younger players. You guide Woody, a diminutive elf, through multiple worlds in search of treasure and, more importantly, the magic crystal the king charged him with retrieving. The task isn't especially difficult given the low amount of enemies, and game violence is limited, a consideration that parents undoubtedly will appreciate.

Before closing, I'd like to share an interesting game-related rumor circulating online. It seems that Sierra may be considering a return to the Amiga market with *King's Quest VI* for AGA. The slowness of their games was part of the reason why they left, so they're looking to outside developers to do a conversion from the PC. Let's hope this is true, as it would be great news for Amiga gamers.

•AC•

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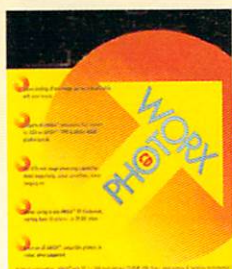


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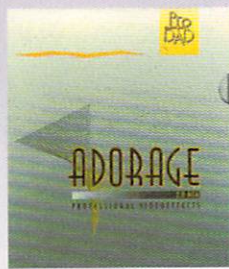


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- Full ARexx Support
- Mark, cut, copy and paste single frames or sections
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- Convert Anim5 animations to SSA for more natural playback



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—DIGITAL F/X *continued from page 68*

screen as your straight edge. Vary the speed of application so as to produce an almost noisy, coastal-like pattern. Make sure that you end up with at least a quarter of inch of just white around the edges as shown in the bottom screen of Figure 3. Use a square brush and the rectangular line tool to outline the page for this purpose. Save this as your jagged background image and exit DPaint.

Now enter ADPro, load this image, and scale it so it is 15% larger in both dimensions than the image that you want to add the edge to. If the aspect ratio of the two images are too dissimilar, you'll need to create the background image with more appropriate dimensions to begin with. Otherwise when you scale the background to fit the main image, the jagged edges for the adjacent sides will appear disproportionate to each other. Once the jagged background is scaled, blur this image approximately seven or eight times, as shown in the top screen of Figure 3. Now simply COMPosite your main image onto this one, and when the composite requester appears, center the smaller main image onto the jagged background. View the results to make sure the main image lies within the borders of the black, jagged region; if not, re-scale the background to make a better fit. When viewing this on white paper, you should see only the jagged edge and not the white edge color of the image.

Patterned Edges

As with jagged edges described above, initialize the same type of black and white screen setup in DPaint. Now instead of using a plain circular brush with the splatter tool, make your own brush. Consider picking up as a brush one of the Dingbat text characters at about 45 points or even just a letter of the alphabet for unusual results. For the more adventurous, try creating an ANIMbrush of a text character rotating around its center axis in 16 frames. Once you've decided on your brush, we'll use this as the pattern for the border of the image.

Next, open the spacing requester under one of the line tools as shown in Figure 2, click on every Nth dot with a spacing of about 30, and then okay. Select the rectangular line tool and draw a border the full screen size using your defined brush. As before, make sure to seal any open spots along the very edges with the color you just used for the brush. Before you save this image, you have two options to consider for its destiny.

As it stands, simply use it in the same vein as a jagged edge background, except now it's a patterned edge background. Or by reversing the colors so the interior is white and the border is black, you get an interesting Alpha channel to be used as a mask between two other images of your choosing (Figure 4). By now you should be acquainted enough with how to deal with this image in ADPro as either a background or an Alpha mask to preclude me from discussing the composition process further.

OpalPaint and ARexx

Like my previous articles, most of the information needed regarding these techniques can be garnered from the included ARexx script as the code is fairly well commented for you and or my own benefit. If you've had OpalVision for a while, you should be familiar with OpalPaint's incredibly versatile ARexx command set by now. The commands used in OpalPaint are very self-descriptive to enable you to follow what's being done.

Unfortunately, like DPaint, OpalPaint does not allow any drawing operation that is larger than the current screen size. In

some instances, this limitation can be overcome, as demonstrated in the accompanying ARexx script when drawing feathered edges on an image that is larger than the screen. When the operation in a script is broken down into smaller than screen-size steps, OpalPaint will automatically scroll the screen to accommodate. I know this is nitpicking, but I hope OpalTech fixes this little handicap so one can accomplish any continuous drawing operation on any size image.

On the plus side, OpalPaint does allow the use of textures when performing a drawing operation. You can choose the type and strength for the texture from the Paper Types control in the Nozzle Manipulation menu. When these are combined with transparent drawing operations as in the feathered edge option, some very interesting results occur (Figure 6).

Well, I hope you've found this month's subject matter useful, or at least mildly interesting. Now that you understand the basic principles for edge creation, I encourage you to explore the countless variations possible for manipulating those once boring, lifeless borders of the past.

Listing

```
/*      PhotoEdge.oprx  v1.0  by William Frawley      */
/*
/*      November 11, 1993
/*
/*      Automatically creates transparent, textured,
/*      and splattered edges or vignettes for images.
/*
/*
```

OPTIONS RESULTS

```
/*.....*/
/*
/*  Load rexxarplib.library / Insure WorkBench to back
/*
/*.....*/
```

```
IF ~SHOW('L','rexxarplib.library') THEN,
    CALL ADDLIB('rexxarplib.library',0,-30)
```

```
CALL ScreenToBack() /* This will insure that Workbench */
/* screen will not pop to front */
/* when this script is activated. */
/* WBench is default arg for this */
/* function.
/*
```

ADDRESS 'OpalPaint_Rexx'

```
/*.....*/
/*
/*      Begin Script
/*
/*.....*/
```

/* Show Title */

```
AskBool 'Photo Edge Maker  v1.0, by William Frawley.
        \n\n  OKAY to Continue, CANCEL to Abort.'
IF RESULT=0 THEN EXIT
```

/* Make Backup Page? */

CALL MakeBackup

/* Set Preferences */

SaveSetUp
Panic

```
/* Determine Page Size and Change Screen Resolution if */
/* necessary.
/*
```

PageSize


```

/** Adjust Square Nozzle Size To 7.5% Of Image's **/
/** Average Dimension. **/

ActiveNozzle 9
ResetATool
Noz9Diam=TRUNC(((W+H)/2)*.075)
NozzleSize Noz9Diam Noz9Diam
ActivePot EdgePot

Menu DISABLE

/** When Drawing LINES Maximum Screen Coordinates Should **/
/** Be 1 Less Than Screen Size Because Coordinate System **/
/** Begins At (0,0) not (1,1), Otherwise LINE Will Not **/
/** Draw. **/

/** Draw EDGE Color Border First. **/

X=W-1
Y=H-1
Offset=0
CALL DrawBorder

/** Draw BACKGROUND Strip Around Perimeter Next. **/

ActiveNozzle 8 ResetATool
Noz8Diam=TRUNC(Noz9Diam*.6)
NozzleSize Noz8Diam Noz8Diam
ActivePot BkgdPot
CALL DrawBorder

/** Draw Splatter Effect Where EDGE & BKGD Intersect. **/

ActiveNozzle 4
ResetATool
SetATool Splatter 65 /* Raise Weight for large images. */
Noz4Diam=TRUNC(Noz8Diam*.7) /* Set circular splat noz */
NozzleSize Noz4Diam Noz4Diam /* at 70% of No.9 nozzle. */
X=W-1-TRUNC(Noz8Diam/2) /* Use offset value half the */
Y=H-1-TRUNC(Noz8Diam/2) /* size of total border width */
Offset=TRUNC(Noz8Diam/2) /* adjusting left & bottom */
ActivePot EdgePot /* coordinates accordingly. */
CALL DrawBorder

/** Blur Splatter Line **/

SetSpare 1 Blur 100
SetDrawMode 19 100
X=W-1
Y=H-1
Offset=0
ActiveNozzle 9
CALL DrawBorder
CALL DrawBorder

Menu ENABLE

RETURN

/*****
/*
/* Draw Border
/*
*****/

DrawBorder:

IF W>736 & H>476 THEN DO
Line Offset Offset 735 Offset
Line 736 Offset X Offset
Line Offset Y 735 Y
Line 736 Y X Y
Line Offset Offset Offset 470
Line Offset 471 Offset Y
Line X Offset X 470
Line X 471 X Y
END
IF W>736 & H<=476 THEN DO
Line Offset Offset 735 Offset
Line 736 Offset X Offset
Line Offset Y 735 Y
Line 736 Y X Y
Line Offset Offset Offset Y
Line X Offset X Y
END
IF W<=736 & H>476 THEN DO
Line Offset Offset Offset 470
Line Offset 471 Offset Y
Line X Offset X 470
Line X 471 X Y
Line Offset Offset X Offset
Line Offset Y X Y
END
IF W<=736 & H<=476 THEN DO

```

```

Rectangle Offset Offset X+1 Y+1
END
ELSE NOP

RETURN

/*****
/*
/* Vignette
/*
*****/

Vignette:

/** NOTE! **/

Okay 'NOTE: Vignette must be <= screen size to work!'

/** Calculate Center Of Page **/

xc=W/2
yc=H/2

/** Pick Edge Color **/

Okay 'Pick Background color from Paint Pots'

/** Arrange RadialFree Transparency Gradient **/

SetDrawMode 1
ClearTransGrad
FillMode GRADIENT
GradType RADIALFREE
TransGradTag 0 100
TransGradTag .9 100
TransGradTag 1 0

/** Get Size Of Vignette From User **/

Okay 'Drag out rectangular vignette perimeter'
Menu DISABLE
GetRect
PARSE VAR RESULT X1 Y1 X2 Y2

/** Calculate Range/Orientation Of Radial Transparency **/
/** Gradient **/

VigXC=X1+TRUNC((X2-X1)/2) /* The grad's orientation is */
VigYC=Y1+TRUNC((Y2-Y1)/2) /* calculated from center to */
GradRange VigXC VigYC X2 Y2 /* lower-right corner of */
/* drawn polygon. */

/** Draw Vignette **/

SolidRect 0 0 W H

Menu ENABLE

RETURN

```

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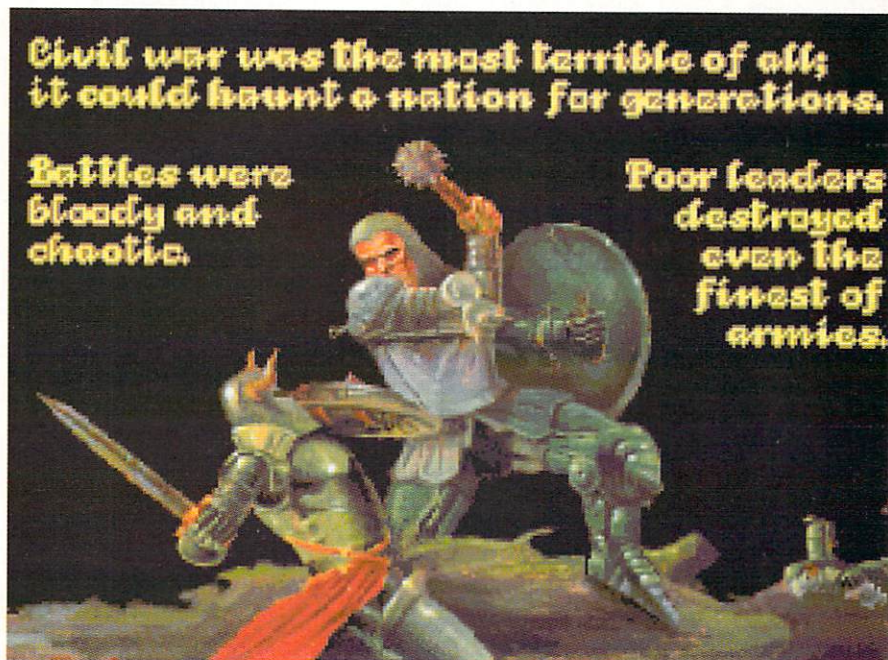
THE AGA CHIP SET



AMIGA GAMING:

TOO LITTLE, TOO LATE?

by Jeff James



A few short years ago, Amiga gamers had it all. Back then, Amiga owners were often the first computer users to see the best computer games money could buy. Games like *Battle Chess* (Interplay) and *Defender of the Crown* (Cinemaware) were often released first on the Amiga; developers knew the Amiga could play games like no other computer. Back in 1987, the Amiga's colorful graphics, speedy graphics coprocessors, and stereo sound put the then black-and-white Macintosh and 16-color EGA IBM-compatible computers to shame. If you wanted to play games on a personal computer, the Amiga was the best money could buy—period.

Unfortunately, that situation has changed markedly over the past few years. Today, powerful MS-DOS computers equipped with speedy 486-processors, massive hard drives, colorful 256-color SVGA displays, and 16-bit sound cards have replaced the Amiga as the number-one gaming platform in the United States. Amiga owners have been forced to salivate at a distance over the monstrous, hard-drive sprawling MS-DOS games such as *Falcon 3.0* (Spectrum Holobyte), *Wing Commander: Privateer* (Origin) and *Links 386 Pro* (Access software), games that will most likely never be ported to the Amiga. The Amiga's market share in the U.S. has steadily eroded over the past year or so. Even in the United

Kingdom—where the Amiga has long been considered the home computer of choice—the Amiga is losing ground to low-cost IBM compatibles.

When Commodore released the Amiga 4000 and 1200 late in 1992, the company seems to have said, "Don't write the Amiga off just yet." With the arrival of the AA chip set, known also as AGA for Advanced Graphics Architecture, found in the Amiga 1200, Amiga 4000, and Amiga CD32, Commodore has at least leveled the playing field. Capable of displaying 256-colors in a wide range of resolutions, the Amiga can now support the 256-color standard employed by MS-DOS and Macintosh computers. The AGA chip set is the greatest leap forward for the Amiga since its introduction. But will it be enough?

In this first installment of a two-part series, we'll take a look at how the AGA chip set is changing the face of Amiga gaming. We'll examine why the AGA chip set is so crucial to the future of the Amiga, and what it means for game developers. We've talked to a few U.S. Amiga developers and asked them what they think of the new chip set. A few developers I talked to, such as Interplay and Sierra, even mentioned some AGA-capable products they have in the works.

Tech Specs

The AGA chip set improves upon the enhanced chip set (ECS) in four primary areas: bandwidth, resolution and number of colors, maximum sprite size, and improved special modes.

Bandwidth: Unlike the 16-bit ECS, the AGA chip set is a 32-bit design. This larger bandwidth gives AGA-equipped Amigas a four-fold performance increase over their ECS cousins, allowing for more colors, higher resolutions, faster animations, and smoother scrolling—perfect for wickedly fast arcade games.

Increased resolution and color palette: The AGA chip set brings a variety of new screen resolutions to the Amiga—up to and including an impressive 1280 X 1024 resolution. Combined with the new color capabilities, the AGA chip set is capable of displaying up to 256 colors in a wide range of resolutions, including the popular 320 X 200 and 640 X 480 256-color modes commonly used in IBM-compatible SVGA games.

Sprite size: When it comes to sprites, the AGA chip set is capable of displaying larger sprites in both low and high resolution. ECS Amigas are capable of displaying sprites in low resolution, up to 16 bits in width. The AGA chip set allows sprites to be either low or high resolution, and increases the maximum sprite size to a whopping 64 bits. This translates into larger, more smoothly moving bug-eyed monsters and spaceships in AGA-capable arcade games.

Special modes: In addition to the vast increase in color depth, the AGA chip set introduces a variety of special new graphics modes. HAM8 is an update to the venerable HAM graphic mode found in OCS and ECS Amigas. Unlike HAM, which is limited to 4096 displayable colors, HAM8 supports up to 256,000 simultaneous colors. HAM8, like HAM, causes a serious drain on Amiga system resources, making these modes suited best for title screens and introductory animations when used in games. The Amiga's dual playfield mode, which allows two screens to be visible at once, with part of one being transparent, letting the other one show through, has also been improved. Up to 16 colors can now be used on each playfield, a considerable improvement over the less colorful, dual-playfield capability of the ECS. The dual playfield mode is used often in games to create smooth, parallax scrolling effects. Finally, a feature called Mode Promotion allows the AGA chip set to improve the quality of standard 15KHz Amiga displays on VGA monitors, eliminating interlace flicker.

The bottom line? AGA gives game developers more colors, larger sprites, and faster speed than ever before.

Biggest Advantage for Game Development

When choosing the single most important new feature of the AA chip set, developers almost unanimously agree that the ability to display 256 simultaneous colors is tops. Phil Moody, Project Manager of Hollyware (*Hoi*, *Gearworks* and *Lords of Time*), stated that the most important feature of the AGA chip set was undoubtedly the 256-color support. "The ability to convert 256-color [IBM VGA] software to the Amiga without downgrading the image is the single most important feature of the new chip set," Moody says. Jack Nichols, an Amiga Technical Support Representative at Sierra On-Line, agrees. "Since game companies have adopted the unwritten standard of 256 colors for games, this places the Amiga back into the practical position for development."

In addition to the increased number of displayable colors that the AGA chip set brings, the faster processor used in the A1200 (with a 14MHz 68EC020) was mentioned as one of the best new features of the new Amigas. Since most commercial software developers support a wide range of computer platforms, the

ability to easily port products from one platform to another is an important one. Now that the Amiga can compete with other platforms in the graphic arena (with a 256-color display), developers hope that Amiga owners will buy Amigas equipped with hard drives. According to Ted Morris of Westwood Studios (*Dune II*, *Legend of Kyrandia*), one of the major hurdles in porting titles to the Amiga is being able to squeeze a large MS-DOS game onto a floppy-only Amiga system. Two of Westwood's newer games for MS-DOS computers—*Lands of Lore* and *Legend of Kyrandia II*—are simply too large to be converted for use on floppy-only Amigas. Nearly all developers agree that the more Amigas with hard drives, the better.

U.S. AGA Game Development

Currently, the bulk of Amiga game development is taking place in the U.K. The shrinking market share of the Amiga in the U.S. personal computer market and the limited shelf space given to Amiga software in the large national software chain stores, such as Software Etc. and Waldensoftware, were two of the biggest reasons cited by developers for the decline in stateside Amiga software development. If Commodore could sell a large number of Amiga 1200s over Christmas, some developers mentioned they would give the Amiga market a strong second look. "Unless Commodore can sell enough of them, the new AGA-equipped Amiga computers may have very little effect on future games," cautions Morris of Westwood Studios. "Most publishers won't devote time to products that have such a specialized and limited user base."

Convincing developers to produce new AGA-capable game software for the Amiga is one thing; being able to find and purchase those new Amiga games is another. "Consumers can't find Amiga software at most of the major software retailing chains," says David Lester, President of Impressions Software (*Caesar*, *Air Bucks*). Lester added that unless the limited distribution network for Amiga software, mostly to independent software dealerships and mail order companies, is expanded, Commodore would have a tough time convincing potential Amiga customers of the value of buying an Amiga. A computer without readily-available software is a tough sell to any consumer.

Because of these factors—and others like software piracy—Amiga software development in the U.S. is at an all-time low. Most of the larger U.S.-based software publishers have suspended any new development for the Amiga, adopting a wait-and-see attitude. Sierra, Dynamix and LucasArts have suspended support for the Amiga indefinitely, although representatives from all three companies mention that they are watching the Amiga market closely. "The Amiga would need to demonstrate significant domestic sales growth in order for us to reconsider developing products for the platform," says Sue Seserman, Public Relations Director for LucasArts.

While many of the larger American software developers have stopped developing or distributing software for the Amiga, there are a few companies still continuing their stateside Amiga software development efforts. One of the most notable is undoubtedly Interplay Productions, which is currently working on 256-color AGA conversions of two of their popular MS-DOS games: *Star Trek: The 25th Anniversary* (ST25) and *Castles II*. Interplay plans to release the CD32 version of *Castles II* first, with the disk-based version of ST25 to follow. At press time, Interplay had decided to release *Castles II* only in CD32 format, with the possibility of a disk-based version for A1200 and A4000 owners unlikely.

CASTLES II SIEGE & CONQUEST



Although Sierra has stopped development for the Amiga in its U.S. office, the company is working with an unnamed European software developer to evaluate porting some of its MS-DOS titles to the Amiga. Chief among these conversions is that of the best-selling MS-DOS version of *King's Quest VI* to the Amiga 1200. According to Bill Crow, Sierra's Director of Systems Technology, the decision to port KQ6 to the Amiga hinges partly upon how well the conversion will run on the Amiga 1200. "The goal is to get reasonable performance on a hard-drive equipped Amiga 1200," Crow says. Crow cautions that the port is not a certainty; the project could be scrubbed if adequate performance could not be achieved on the target Amiga configuration (a hard-drive equipped A1200), or if the Amiga's market position worsens.

Other U.S. software publishers are importing Amiga titles from their U.K. divisions. Electronic Arts recently imported *Syndicate* and *Space Hulk*—two non-AGA games though the first is planned for release on the CD32—to the U.S. from Electronic Arts U.K. Maxis (*SimAnt*, *A-Train*) defers to their U.K. branch for most new Amiga game development, with *SimLife* AGA being the latest release from that division. Likewise, Microprose U.S. depends on the British Isles for Amiga development, with an AGA version of *Civilization* available in the U.K., but not distributed in the U.S.



Trend Reversal

Although the Amiga's position as the premier computer gaming platform in the U.S. has been lost, most developers are quick to mention that it isn't too late to get software developers to

support the Amiga again. Developers suggest that Amiga owners take the following steps:

1. Write letters

When asked what Amiga owners could do to convince game developers to keep supporting the Amiga, Phil Moody of Hollyware suggested that Amiga users write letters to game developers encouraging them to continue supporting the Amiga. A warranty/registration card is an ideal medium for expressing your thoughts. After purchasing and enjoying a piece of Amiga game software, return the completed warranty card to the developer, encouraging them to support the Amiga's new AA-chip set and to continue developing games for the Amiga. "Everything helps," says David Mosher, a graphic artist for Interplay; "send letters, postcards, anything to let developers know that you want them to keep supporting the Amiga." Online services such as CompuServe and GENie are also ideal for leaving messages and comments to game developers. Regardless of the medium used, short, polite messages are likely to get the best response.

2. Buy AGA Technology

Nearly all developers stressed the importance of buying into AGA-technology. "Buying the repackaged, eight-year old technology of an Amiga 600 competes with the placement of the Amiga 1200 as the new base machine, and is destructive to the Amiga market," says Sierra's Nichols. Developers suggest that new users buy only AGA-capable Amigas, and buy them with as much hard drive capacity as possible. The Amiga 1200 with a 40MB or larger hard drive is the new "base configuration" that many developers spoke of. The more hard-drive equipped A1200s that developers see in the market, the more likely they are to attempt porting the hard-drive sprawling computer games common in the MS-DOS world to the Amiga. The bottom line on a new Amiga hardware purchases? Don't buy anything less than an Amiga 1200 with at least 2MB of RAM and a 40MB hard drive.

3. Support developers who support the Amiga.

Some Amiga owners may be tempted not to buy an Amiga game because it lacks a certain feature, such as hard-drive installation or support for the AGA chip set. Developers caution that such purchasing patterns will send the message to game developers that the Amiga market is not worth developing for. No sales equals no new games. Ted Morris of Westwood suggests that Amiga owners "... purchase their favorite Amiga games, and then ask publishers to support the AGA chip set in the future. If our Amiga games sales were just a little higher, we would accelerate some of our other Amiga projects to meet market demands."

In a future article, we'll take a look at Amiga gaming in the U.K., talk more about the new Amiga CD32, and ask developers what they think of Commodore's relationship with the software development community.

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DIVERSIONS

Lemmings 2: The Tribes

by Jason D'Aprile

Way back when, Psygnosis released *Lemmings*, which promptly scampered its way to the top of the Amiga, then PC software charts, gained worldwide fame and fortune and just generally got looked upon with favor. The only other game of this type to do such a thing was *Tetris*, a game whose sequels

were more knockoffs than anything else.

Lemmings 2, on the other hand, takes all of the spark and pizzazz of the original and adds to it, almost exponentially. Over 60 new skills, tribes of different lemmings, remarkable, scrolling scenery and plenty of other goodies have been chunked into this

new incarnation of the saga of the little furry suicidal maniacs that we have come to love so much. It also has an intro cartoon that easily ranks as one of the best I've seen for any game.

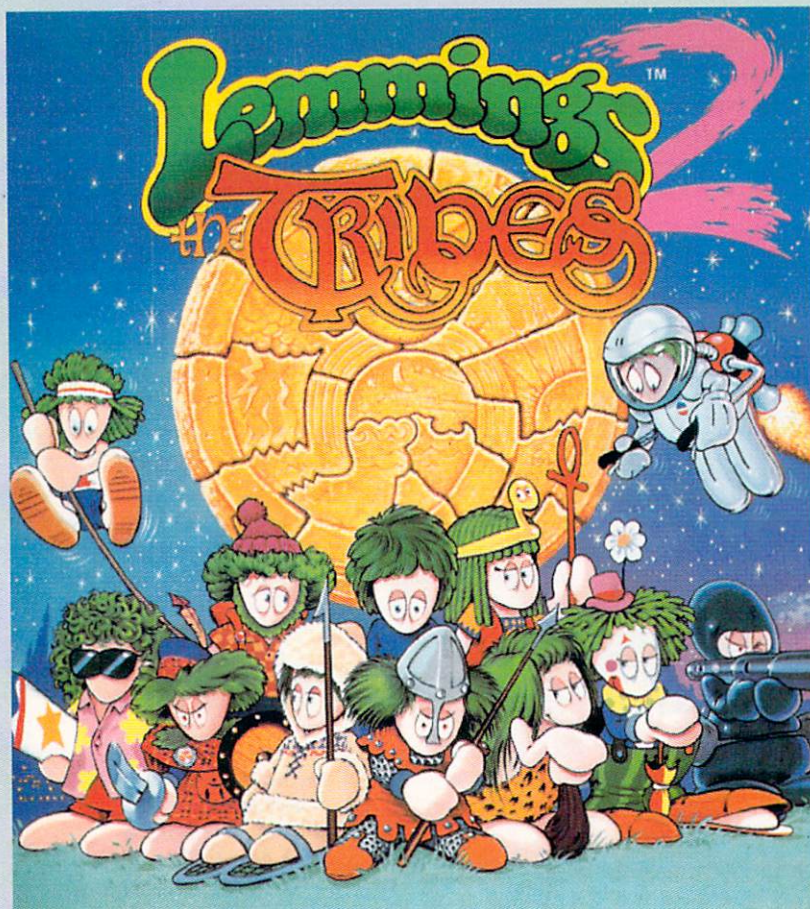
The plot revolves around a terrible darkness that is about to swallow up the peaceful Lemming island. The lemmings have devised a plan to build a great airship to take away all 12 tribes and lead them to safety. Each tribe has a piece of an ancient talisman that must be joined to-

gether to become the power source for this great boat. As the player, it is your job to guide the lemmings through the treacheries of their landscapes to lead them to safety. Apparently, lemmings can build huge flying ships, but still haven't managed to grasp such mundane concepts like gravity, swimming, or stopping.

Plot in a game like this is, of course, negligible, so just sit back and prepare to be stumped—sometimes agonizingly so. In addition to such new abilities like surfing, hang gliding, and firing mortars and bazookas, you take only the number of lemmings to the next level that survived the previous screen. Instead of passwords, game progress is saved to disk and not only is it hard-drive installable, but *Lemmings 2* also utilizes extra memory.

The different tribes range from beach bum and highlander lemmings to space and circus types. The range of scenery in the levels is quite broad and always fun to just watch. The sound effects and music are as goofy as ever and fit the mood properly. The play options are many, and L2 is certainly more convenient to play, especially with the ability to auto-destruct all the lemmings at once and a button to fast forward the game during the slow parts.

In the Olympian spirit, you now receive metals for your survival performance—bronze, silver, or, if you can save all the lemmings, the elusive gold metal.



After the first stage of each tribe, the gold metal becomes extremely hard to acquire—some might argue impossible, depending on the stage. Each metal evokes a proper response from your lemmings, ranging from a mediocre shoulder shrug to ecstatic hip-hopping joy from the little guys.

The small-scale character graphics in the game are as endearing and animated as ever. The lemmings change into different outfits depending on the skill you assign them during the scene and the amount of just-for-fun things that can be tried in the game is mindbogglingly vast, especially if you're of a rather sadistic bent at the time of play. From SuperLem, who has the ability to blindly fly after the cursor until he hits something, to diver lemming who, oddly enough, can't swim—there's always something to entertain on the screen, even if you've thrown in the towel for the rest of the game.

DMA design knew that the sequel to a game like Lemmings had to be as new and fresh as possible, but still maintain the same qualities that made the original so popular. In that respect, they succeeded quite well. Lemmings 2 has everything that made the original special, only more of it. Consequently, if you disliked the first, stay away from the second as it is, in essence, more of the same type of thing. If, like most, you fell for the Lemmings, then, well, you probably already have Lemmings 2 and if not, then pick it up and prepare to be stumped all over again.

Lemmings 2
Psygnosis Limited
675 Massachusetts Ave.
Cambridge, MA 02139
(617) 497-5457
(617) 497-6759 FAX
Inquiry #223

Thalion's *Lionheart* is possibly the finest example of an arcade/platform fantasy game that I have ever played. Fans of *Leander* who know that Traveler's Tales, the designers of *Leander*, went to make Sega-only games and are angry over the loss of the promised *Leander 2*; those fans can take heart in the fact that *Lionheart* is the same type of game, only better.

The plot has two major goals to it; the main goal is to defeat an evil wizard named Norka who has stolen a magical gem, called, like our hero, the *Lionheart*, that keeps the current king in power. Valdyn The *Lionheart*, the hero of the story, must venture through the harsh landscapes, mainly on foot, in order to reach Norka's flying fortress and retrieve the gem. The second goal involves the fact that Valdyn's love has been petrified by a rare poison and the only cure exists somewhere in Norka's domain; finding the cure is secondary to completing the game and the odds are slim that the first time you win *Lionheart*, you'll have saved the girl along with the rest of the kingdom.

One may assume that in order to compete in the Amiga game industry, a game has to have top-notch sound and graphics, and *Lionheart* delivers big time on both accounts. The vast, bold landscapes are varied, interesting and challenging. The ever-present musical soundtrack is always interesting and unique, as are the sound effects.

What truly makes *Lionheart* stand apart from all the rest is how huge it is. The first world, alone, takes a half an hour to get through. To finish the game, you'll be blowing away almost two hours and there is no password or save feature of any sort. *Lionheart* is packed full of secret areas filled with treasure and potions just waiting to be discovered. Even if you do get through

Lionheart

by Jason D'Aprile

the game with proficiency, I doubt that you'll have explored all of *Lionheart*'s world.

The game offers a choice of either a one- or two-button joystick, has a soundtest to listen to the soundtrack, includes a nice opening and a really good ending sequence. Control is good, though attacking requires holding in the button and pressing a direction. Pressing the button by itself will only cause Valdyn to draw his blade; I would have appreciated it if he would have automatically attacked—for speed's sake, if nothing else.

As the game progresses, Valdyn journeys not only on foot, but in one stage, he rides a strange dinosaur-like beast in order to catch up with an airship, and in the fifth level, he rides a fire-breathing dragon through the sky. The only parts of the game that maybe resembles a puzzle are some of the pendulum-type platforms that require some practice to move with any proficiency. Strictly speaking, this game is basically all hack 'n' slash, more brawn than brain.

On the downside, a game this long really should have passwords, or something of that sort, to prevent the unconscious passing of an afternoon. There is almost constant movement from all over the screen, and the animation is fantastic. Unfortunately, on my 68000-driven A500, all of this ongoing carnage leads to some serious slow-down and sometimes severe flicker during certain parts of the game. The flickering seems to be isolated to the first world, however, and is almost nonexistent in the rest of the game. Slowdown, however,

pops up throughout the game.

I should also note that I had problems with the game locking up, or not recognizing disks. The game actually locked up during the end sequence once, after I had finally beat the game and completed both plot goals.

Lionheart is an import from Germany, and the game itself runs perfectly fine on NTSC machine, but the intermission and opening scene text sometimes gets cut off. Even in PAL mode, the game won't always complete story messages. Fortunately, the end sequence does not suffer from any cropping.

Even with its flaws, *Lionheart* is, just as the blurb on the box says, the best of its genre. It was made by people who obviously set out to make a superior product and did just that. It's vast, differing, challenging, and, most of all, fun. *Lionheart* isn't just a fantasy adventure, it's an epic.

Lionheart
Thalion
Aus dem moor 50
4835 Rietburg 2
Germany
Inquiry #224

Syndicate

by Jason D'Aprile

The first line in the instruction manual of *Syndicate*, under the heading "Object of the Game," pretty much sums up all you need to know about *Syndicate's* theme: "The aim of the game is to spread the dark stain of your Syndicate's colour

across the surface of the entire globe." Well, that's pleasant. *Syndicate* is the kind of cyberpunk that we were warned about, the very mean-spirited kind.

I acquired *Syndicate* because there are so few games of that genre. Now, I've played a

number of European games and I'm used to playing rather nasty, unsociable, non-hero types in these games, but *Syndicate* absolutely, positively, takes the award for being the meanest spirited game that I have ever played.

On that note, the game itself revolves around a new *Syndicate* executive (you) controlling a group of up to four cyborg slaves that are sent on missions to assassinate, kidnap, brainwash and just generally do royally nasty things. It's played from a top-down perspective that is very much the same as the *Populous* games, only on a much smaller scale. This game is played in the cities of the future, when the real power is in the hands of evil criminal Syndicates. As the executive, you want to overtake all the other rival Syndicates, reign supreme, collect taxes, create new and more powerful weapons of destruction, and move up in the ranks to real positions of power.

Did I like playing *Syndicate*?

No, I loved it—every brutal minute.

Maybe, that's not such a good thing, though. Your cyborgs can pretty much do anything they like in the city environments. A lot of the game revolves around drugging citizens, who then follow you around and act as human shields, eventually taking over enemy agents to add to your own ranks. The variety of weapons is striking; the many ways to die in this game are as entertaining as they are varied. You can upgrade your cyborgs with new parts, develop new weapons in the R and D department, drive vehicles, and blow away some of the scenery—regrettably, though, not buildings.

Syndicate is a very big game, having over 50 missions to succeed in. The animated sequences of the future are really great; I wish only that there were more of these intermissions. Sound in the game is, however, strangely absent most of the time. Sure, there are city sounds going on, but not many. There is little

voice in the game and, despite what the manual says, I have yet to hear any music while playing.

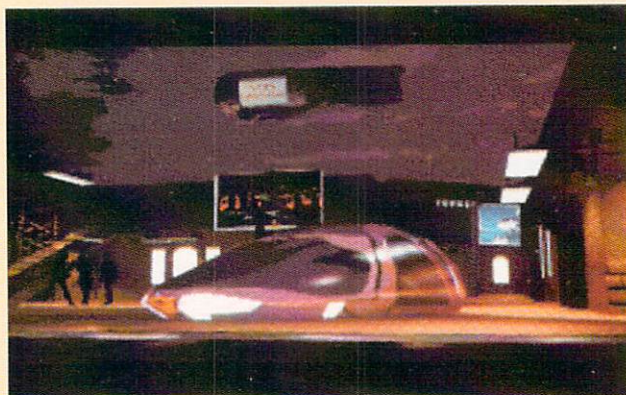
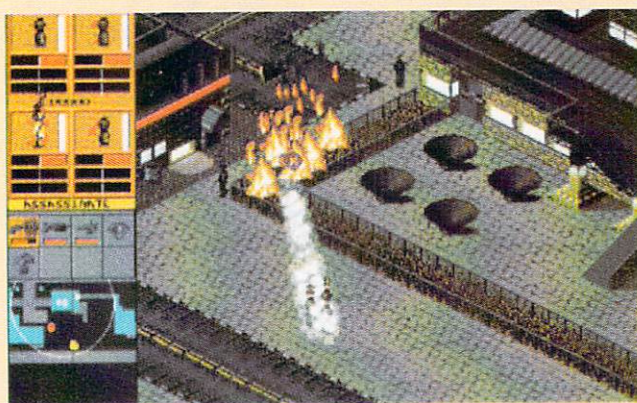
In-game graphics are done quite well, though there are some small glitches in certain animated activities, but nothing to gripe about. There is a myriad of little touches in the cityscapes that make the game as much a joy to watch as it is to play. Animated billboards, pedestrians, moving cars, traffic lights, cops moving in to shoot my cyborgs—it's all there.

The whole game is mouse controlled, and this system works nicely. I did encounter problems in getting the cyborgs and cyborg groupies to go where I wanted them to go sometimes. If there are obstacles in their path, you really have to learn to guide your metal morons through them with baby steps, or else they'll be there all day—a little artificial intelligence would have been nice here. Getting them to go up and down stairs will sometimes take a zen-like quality of patience and determination. Incidentally, it's true what mom taught you: always look both ways before crossing the street.

Syndicate is definitely not for everybody, but it is the best crossover between mindless shoot-'em-ups and strategy games that I have ever seen. Its hyper-violent atmosphere and realistic cityscapes lend themselves to an involving play experience. This game will have you really thinking in non-linear ways just to figure out the best approach to destroy the enemy syndicate that you are about to overrun.

Virtually everything about the game gives the player free reign over all decisions, which is something very rare in games today. *Syndicate* is smart, razor sharp, and original.

Syndicate
Electronic Arts
1450 Fashion Island Blvd.
San Mateo, CA 94404
(800) 245-4525
Inquiry #225



Street Fighter 2

by Jason D'Aprile

In the past, there have been a very few games that have, for whatever reason, rocked the gaming community—games like *Pac-man*, *Space Invaders*, *Tetris*, *Lemmings* and, in the last year, Capcom's revolutionary and incredible fighting game, *Street Fighter 2*. It has great graphics and sound, tons of moves, and fantastic joystick control. Recently, it has appeared on all the major gaming platforms and clones are coming out in droves. Unfortunately, US Gold's Amiga version is a perfect example of the blatant marketing attempts that such popularity induces. This is, at best, a regrettable conversion.

The original game itself, for those who are not familiar with it, consists of eight of the world's best warriors competing, each for his own reasons, in a tournament to become the new world champion. Each character has a story behind him and that's part of the greatness of this game. Win the game with every character and you'll find that each has a different ending sequence. In order to get to the ending, however, you must first win out over not only the other seven world warriors, but four additional fearsome, powerful, and mysterious Grandmasters. Since I have not yet heard of a boss code for the Amiga SF2, this version is sim-

ply a conversion of the original arcade game, or, more specifically, the first Super Nintendo version. I have, however, heard that there is a code-word cheat that enables the "same character vs. same character" function, though I have not yet found out what it is.

Graphically, the game suffers due to the downgrade to 32 colors, but the character graphics are still nicely done. The sound effects range, for the most part, from fair to pathetic, and the music is simply fair. The programmers obviously skimmed on the character's animation frames, and it is apparent throughout play that they actually recycled a good deal of them, much to the detriment of the game itself.

But I could take all of those problems, if only the game were playable. Even though it offers the choice of using a two-button controller, keyboard, and even combinations between joystick and keyboard, SF2 on the Amiga easily has the worst player control that I have ever experienced. It's unresponsive and frustrating to do even basic moves, and kneeling is an almost unbelievable chore. I won't even get into special moves. The manual should have given concise play instructions for a game where precise control is so important, but unfortunately, they also

shirked in this department as well. Actually, the manual is almost a carbon copy of the SNES version.

Amiga SF2 is a bit on the sluggish side most of the time, but sometimes it will suddenly jerk into a higher speed for a second. The hideous joystick control of the game proves to be more of an opponent than the other warriors, and it is inconceivable to me that they could have programmed it like this. Even on level 0, the game is very hard to beat because of the control. It also is a real disk hog, covering a whopping four disks and taking up major disk access time to show it, too. The arcade version's bonus rounds are all in here, but again, because of the poor control, they too are next to impossible to complete.

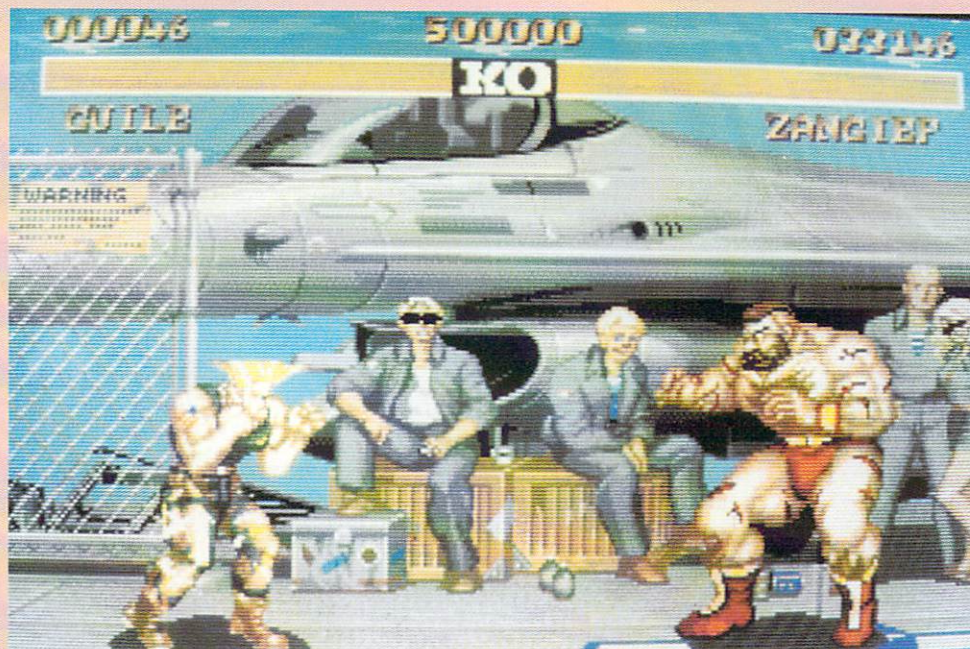
On the upside, there is a two-player versus mode, handicapping, and other configureable game options. The music plays in the background while the game is running and the sound effects are active at the same time. The character graphics are pretty good, though they should have

upped them to 64 colors like the Genesis version.

To be perfectly honest, I almost hurt to give this game a bad review. *Street Fighter 2* is easily one of my favorite games of all time and, while I wasn't expecting miracles from this version, I was expecting it to be, at the least, decent. I feel cheated that US Gold would release a game in as poor a shape as this version of SF2 is and so should anyone else who has bought it.

On the other hand, if US Gold were to revamp this game by making it Turbo SF2 (or even Champion Edition), improving the graphic quality, adding the missing moves and frames of animation, upgrading the sound and—most importantly—making it as easy and enjoyable to play as the arcade and gaming platform versions, then I'd pick it up in a heartbeat and revise my opinion of it. It's doubtful that such a thing will happen, though.

My advice for Amiga gamers who are hungry for a good fighting game on their machines is to skip this one and pick up Team 17's *Body Blows*; true that it's no *Street Fighter 2*, but unfortunately, outside of the name, neither is this.



Streetfighter 2
US Gold
Unit 2/3
Holford Way
Holford, Birmingham,
England
B6-7AX
021-625-3366
Inquiry #226

Shadowlands

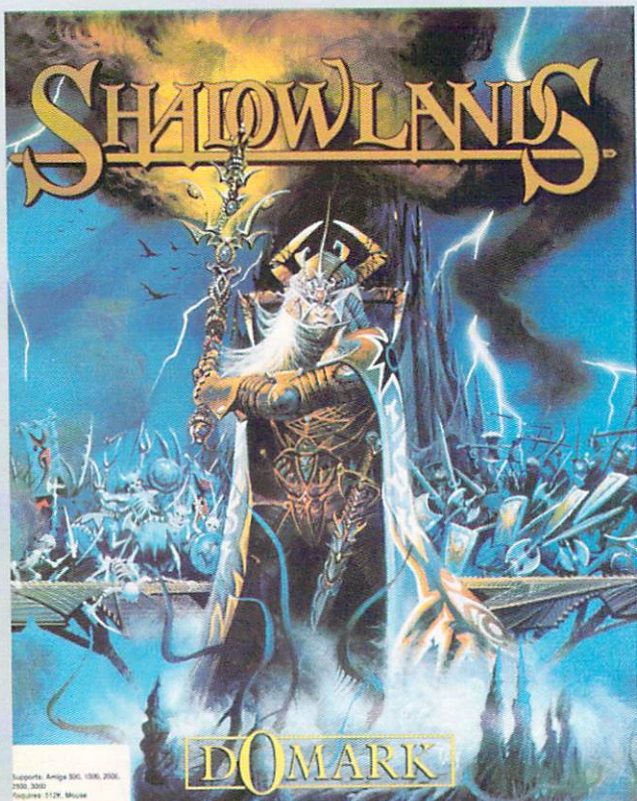
by Jeff James

In Domark's *Shadowlands*, the player must guide four brave adventurers in a quest to defeat an evil, power-hungry warlord. Although the plot and setting may sound like bathos, the execution is anything but. Developed by the European programming team Teque, *Shadowlands* is a role-playing adventure with a twist. *Shadowland's* uniqueness stems from a number of design elements. When first generating the four characters for the game, for example, players are allowed to change the facial appearance of the characters by choosing eyes, noses, mouths, and hairstyles. Only four character attributes are included—strength, health, combat, and magic—with each being represented by a stylistic bar graph.

The biggest twist is undoubtedly the playing interface, which presents gamers with a 3-D overhead, isometric view of the *Shadowlands* gameworld. The four character portraits usually line the bottom of the screen, with a horizontal bar indicating the current health of each character. Clicking on a character portrait displays an outline of the character's body, which is used to issue commands to that character. Commands are issued to the character by clicking on the appropriate body part. For example, clicking on the character's right hand (called the action hand) then clicking on an enemy initiates hand-to-hand combat, while the left hand is employed to manipulate objects. Moving characters around the screen is accomplished by clicking on the right leg, then clicking on the screen where you want the character to move. Teque and Domark should be commended for developing a new and unique control method, but the system

still needs some work. In practice, everything seems to require a bit more effort than it should. Coordinating the attacks of four separate characters on different enemies while shuffling inventory and moving heroes about the screen requires an inordinate amount of mouse-clicking and pointing.

Shadowlands features Teque's "Photoscape" game system, which controls how light is displayed in the *Shadowlands* game world. The finest example of the Photoscape system at work is when your party—equipped with torches—is exploring a darkened ruin. The area immediately around a torch-wielding character is brightly lit, with far-off areas being dimly illuminated by torch light. As your adventurers explore the gloomy recesses of the building, their torch light follows them, revealing previously darkened areas as they advance. This adds a spooky sense of excitement to the game: one can easily imagine a set of brave adventurers peering into the blackness, trying to spot the nasty beast that will lurch out of the dark and gobble up them up. Photoscape works in broad daylight too: your characters can only use, attack, or manipulate objects that are within their line of sight. Objects hidden by walls, foliage, or attacking monsters are (appropriately) unable to be used. Another unique playing feature involves the chess board. Accessed via the inventory screen, the chess board allows you to create specialized marching formations for your characters. You can also split your party into two separate squads, having them explore separate parts of the dungeon. Up to five unique squad formations can be saved then accessed by pressing the



appropriate function key (F1 through F5).

Shadowlands uses a proprietary disk-based operating system, so hard-drive installation is not supported. The game diskettes can be easily backed up, with saved games requiring a blank, unformatted diskette. *Shadowlands* does not work on the A1200 or A4000—only Amiga owners with the ECS (Enhanced Chip Set) or OCS (Original Chip Set) need apply. *Shadowlands* may take some doing to find; Domark U.S. is no longer distributing the Amiga version of *Shadowlands* in the States. However, *Shadowlands* can still be found at many Amiga dealers and mail-order outlets. Incidentally, interested gamers may want to take a look at the excellent futuristic follow-up to *Shadowlands*: *Shadowworlds*. *Shadowworlds* retains the graphic look and Photoscape gaming interface of its progenitor, but plays like a slick, futuristic version of *Aliens*, with squads of space troopers facing off against hos-

tile aliens. Like *Shadowlands*, *Shadowworlds* currently does not have a U.S. distributor; locating a copy of *Shadowworlds* may take some work.

Shadowlands does have a lengthy rap sheet of negatives, including a quirky interface, limited hardware support, and nonexistent U.S. distribution. Yet for all its faults, I still found *Shadowlands* to be intriguing and enjoyable. If you've been looking for a new role-playing experience and are willing to put up with a few faults, *Shadowlands* should provide you with days of dungeon-delving entertainment.

Shadowlands
Domark/Teque
1900 South Norfolk
Suite 202
San Mateo, CA 94403
Tel: 415-513-8929
Requirements: 512K RAM,
Mouse
Inquiry #227

Walker

by Jason D'Aprile

Read the rave reviews on the side of the box and you would think that it was the best thing to hit the gaming circuit since *Lemmings*. Well—to be terse about it—it's not, but it's still a real work of art. Made by DMA Design, *Walker* is a feast for the senses. Game play is so smooth and simple that anyone can play it. The game uses a pleasant combination of joystick (or keyboard) and the mouse simultaneously.

The game itself revolves around the player controlling a monstrosity large, mechanical death-on-legs robot that is sent

with tanks, trains, planes and pretty much anything else you can think of. All of the graphics in the game are almost without compare. The look of the game is virtually matched by the constant sounds of battle carnage, as soldiers get blown away, tanks explode and helicopters fall to the ground in mounds of useless steel.

So, with all of this cool stuff, how come I'm bored by level three? The reason is that the Walker moves only in two directions—back and forth. The whole game consists of the Walker

On the other hand, I really have to commend DMA for designing a player character that is, without a doubt, more powerful than anything else in the game—with the exception of the final boss. It's a nice change of pace to see enemy troops actually running away from my guy for a change, instead of the other way around.

Walker starts off in Berlin, 1944, moves to Los Angeles 2019, then on to the Middle East. The final level takes place in the Great War of 2420 and it's fast, frantic and hard. Smile at endless carnage as troops actually teleport in behind you, try to latch on to you, and throw bombs into your tailpipe. Some enemies even transform.

The look of each level is really good, complete with a real sense of screen depth—helicopters will fly in from side streets and get larger as they approach. The bleak color scheme does a good job of conveying a real sense of wartime and the violence that goes with it. I should note that this game is, despite the small scale of the enemy soldiers and such, pretty graphically realistic. Shoot ground troops or paratroopers and they land in pools of their own blood. Blow up troop caravans before they have a chance

to unload and watch the bodies within blow out of the explosion. The game is full of little touches like that. Unfortunately, Walker can't stomp on things; why this should be is beyond me, I would have appreciated the gameplay a lot more if it could. I also wish that vehicle explosions would hurt ground troops and adjacent vehicles.

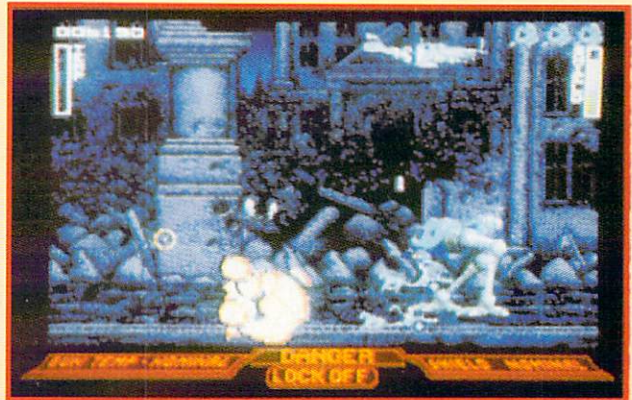
Walker is a real toss-up—technically superior to almost anything else I've seen this year, yet almost completely without heart. The opening dance track is fantastic and bristling with digitized voice soundbites, it's something to really pump up the volume to. Despite the differing enemies and scenery, Walker is basically all the same. The Walker AG-9 only has one weapon and always travels on a straight-away road—there's not even an incline, or anything. Walker should have had more levels that were shorter and more diverse, along with more variety in the game play to keep things going. Passwords would have been nice, also.

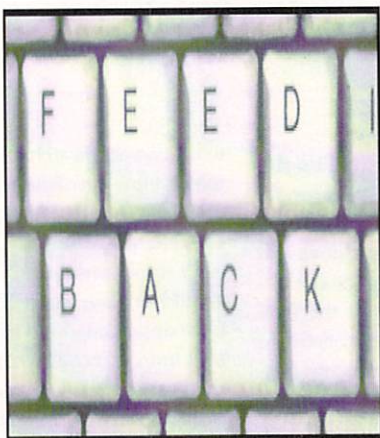
Walker
Psygnosis
675 Massachusetts Ave.
Cambridge, MA 02139
(617) 497-5457
Fax (617) 497-6759
Inquiry #228



through four different time periods to combat an army of darkness and evil and such. The robot, called a Walker AG-9, is maybe the most beautifully-animated sprite I have ever seen. Its head moves like a living thing as it follows the mouse-controlled crosshairs around the screen and blows away little lemming-like soldiers by the thousands, along

walking a few steps, wasting a bunch of really stupid ground troops, killing tanks and destroying bombs, then walking a few more steps and doing it all over again. Why can't the robot transform? Where are the vertically scrolling levels and power-ups? I just wanted something to keep the spark of the beautiful presentation alive.





Feedback

Letters to the Editor

edited by Paul L. Larrivée

Saddam Hussein Virulent on Fish; CanDo 2.5 Files Not All Freely Distributable; and Amiga Appearances Continue.

Letter from Fred Fish

Dear Amiga Library Customer:

According to my records, you may have received floppy disk 919 and/or the October Fresh Fish CD-ROM. Please be advised that the BBBF directory on disk 919 in both the floppy distribution, and both copies of this disk on the CD-ROM (archived and unarchived) contain a file that is infected with the "Saddam Hussein" virus. This virus is in the file:

BBBF/FileVirLib/VirusToTest/
Saddam_Hussein_virus

From what I know at the moment, the virus is only dangerous if you are running Kickstart 1.2 or 1.3 and you attempt to run this file for some reason. However, it is a very dangerous virus, and for this reason I have decided to replace disk 919 with a new disk that does not contain this file. This also means that I will be offering replacement CD-ROMs as well.

If you received floppy disk 919

directly from me, you should automatically get a replacement floppy disk along with this notice. Please reformat the previous version of disk 919 you received. There is no need to return the previous version. Also, please pass on a copy of this letter to anyone you may have redistributed disk 919 to, and either replace such copies or offer to replace such copies.

If you received a copy of the October Fresh Fish CD-ROM containing this virus, you may return it directly to me for replacement. However, because there is no danger from this virus under normal use of the CD-ROM, I am not insisting that you replace it as long as you are not making the files containing this virus publicly accessible or redistributing them. If you wish to return it for a replacement, send it to:

Amiga Library Services
610 N. Alma School Road, Suite 18
Chandler, AZ 85224-3687
U.S.A.

and I will send you the replacement CD-ROM as soon as it is available, which is expected to be about Nov. 24, 1993.

Sorry for any inconvenience this may have caused you.

Fred Fish
Chandler, AZ

Questions CanDo v2.5 Enhancement

As one who dabbles in programming, I write small applications, normally in C, that help make life easier for myself and a few fellow Amiga users. After using several standalone CanDo programs and being thoroughly impressed with them, I recently ordered CanDo 2.0 in the hope of cutting down development time for simple applications that I had hoped to distribute freely.

The mail-order company served up the new CanDo 2.5. Unfortunately, with CanDo 2.5, INOVAtionics has taken away the ability to make freely-distributable standalone programs. The cando.library is

not freely distributable, and the program that binds the decks and libraries to make a standalone application, DeckBrowser, is no longer part of the CanDo package. This fact is made perfectly clear in the documentation addenda on the disks. Therefore, any applications I make can now only be run by someone who owns CanDo, or illegally possesses cando.library.

As a result, the entire appeal of CanDo is gone. Instead of getting a first-rate authoring package, I now feel that I wasted a good deal of money. Unless INOVATronics rectifies this gaffe, CanDo will die a slow, lingering death.

C.A. Rohn
Osan Air Base
Korea

Amiga Sightings Continued

[The list continues from last month. Because of cross-referencing, some instances of the same Amiga use may appear in more than one category.—PLL]

- *Hot Shots, Part Deux*, motion picture
- InfoChannel, Scala Inc.
- IPISA, Incontro dei Programmatori Italiani per lo Sviluppo Amiga
- Joe Rockhopper, penguin
- LILCO, Long Island Gas and Electric Company, New York
Corporate training videos
- London Transport Museum Interactive Displays
- MacWorld Expo
Apple Computer video wall demonstrations
- Matt Groening, creator of *The Simpsons*
- *Max Headroom*
- Me TV, Video Karaoke, Media Image Productions
- *Mouth of Madness*
Directed by John Carpenter
- *My Secret Identity*, TV series
- National Broadcasting Company
Amazing Stories
Quantum Leap
Morph effects created by The Post Group using *MorphPlus*
seaQuest DSV
Video Toaster effects created by
Amblin Imaging
This Country's Rockin'
Unsolved Mysteries

Video Toaster effects by Joe Conti

- *Necronomicon*, a feature film
- Nickelodeon
Clarissa Explains It All
Nick Arcade
Total Panic
Mandala Interactive Video Walls
Wild Side
- MTV, Music Television
Billy Idol
Rick Finn
Todd Rundgren
Change Myself
Fascist Christ
Property
Theology
- NewTek, Inc., Topeka, KS
Creator of the Video Toaster and the Video Screamer
Emmy Award winner for developments in television engineering
- Oceana Naval Air Station, Virginia Beach, VA (InfoChannel)
- Olympia High School, Olympia, WA,
desktop video production
- *Panama Deception*, Oscar Winning "Best Documentary" Film
- Pan American Games
- PBB's *Where in the World Is Carmen Sandiego?*
- Penn Jillette, magician/comedian of Penn & Teller
- POST, in-store advertising network for supermarkets
- Prevue Guide
- Public Access Programming
Cyberspace 3D, Portland, OR
- *Russ Limbaugh Show*
- Science World, video display, Vancouver, BC, Canada
- Sci Fi Channel
Mysteries Beyond the Other Dominion
Produced by Toaster Marmalade of California
Roboflight
- SEGA Genesis software development systems
- Showtime's *World Class Kickboxing Championships*
- *Sidekicks* starring Chuck Norris
- *Star Trek: The Next Generation* actors
Carel Struycken, "Mr. Horn"
Will Wheaton, "Ensign Wesley"
- State University of New York
Albany, Mathematics Department
Oswego, Graphics Department

- St. Clair Interactive Communications
K-Mart Coupon Center
SEATS Theater Booking System
- Tulsa Junior College of Oklahoma,
desktop video production
- TVOntario's *Prisoners of Gravity*
- United Video of Tulsa, OK, makers of
Prevue Guide
- User Interface Technologies' *Media Magician*, home control system
- VIDIGraphic's MacDonald's Drive-Thru
Video Displays
- Walton High, Marietta, GA
- *Warlock*, produced by Trimark
- ZZ Top, music group

List of Famous Amiga Uses by David Tiberio©
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[illegible]

AC's TECH

AC's TECH, Vol. 2, No. 4
Highlights Include:
"In Search of the Lost Windows," by Phil Burke
"No Mousing Around," hide that annoying mouse pointer with this great program, by Jeff Dickson.
"The Joy of Sets," by Jim Olinger
"Quarterback 5.0," a review by Merrill Callaway.

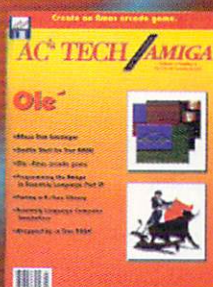
AC's TECH, Vol. 3, No. 1
Highlights Include:
"Comeau Computing's C++," A review of this great new C compiler by Forest Arnold.
"Programming the Amiga in Assembly Language Part 5," by William Nee
"Make Your Own 3D Vegetation," Laura Morrison shows how to use iterated functions to create 3D trees and plants.
PLUS! The HotLinks Developer's Toolkit ON-DISK!

AC's TECH, Vol. 3, No. 2
Highlights Include:
"Ole," An arcade game programmed in AMOS BASIC, by Thomas J. Eshelman.
"Programming the Amiga in Assembly Language Part 6," by William Nee
"Wrapped Up with True BASIC," Text and Graphics wrapping modules in True BASIC, by Dr. Roy M. Nuzzo
"ARexx Disk Cataloger," An AmigaDOS manipulator that produces a text file containing information about the floppy disks you want cataloged, by T. Darrell Westbrook
AND LOTS MORE ON DISK!

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Highlights Include:
"Rexx Rainbow Library," A review by Merrill Callaway
"Programming the Amiga in Assembly," by William Nee
"All You Ever Wanted to Know About Morphing," An in-depth look at morphing for Imagine by Bruno Costa and Lucia Darsa
"Custom 3D Graphics Package Part I," Designing a custom 3D graphics package by Laura Morrison.
"Build a Second Joystick Port," A simple hardware project for an additional joystick port by Jacques Hallee.
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Highlights Include:
"Custom 3D Graphics Package Part II," Put the finishing touches on your own graphics package by Laura Morrison.
"TruBASIC Input Mask," An interesting TrueBASIC utility by T. Darrell Westbrook.
"Time Efficient Animations," Make up for lost time with this great animation utility by Robert Galka.
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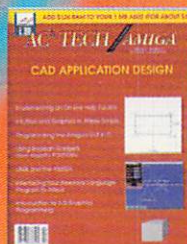
**BACK ISSUE
SPECIALS!
SEE PAGE 80
FOR DETAILS**

Complete selection of Amazing Computing and AC's TECH AVAILABLE!

WHAT HAVE YOU BEEN MISSING? Have you missed information on how to add ports to your Amiga for under \$70, how to work around *DeluxePaint*'s lack of HAM support, how to deal with service bureaus, or how to put your Super 8 films on video tape, along with Amiga graphics? Do you know the differences among the big three DTP programs for the Amiga? Does the ARexx interface still puzzle you? Do you know when it's better to you use the CLI? Would you like to know how to go about publishing a newsletter? Do you take full advantage of your RAMdisk? Have you yet to install an IBM mouse to work with your bridgeboard? Do you know there's an alternative to high-cost word processors? Do you still struggle through your directories?

Or if you're a programmer or technical type, do you understand how to add 512K RAM to your 1MB A500 for a cost of only \$30? Or how to program the Amiga's GUI in C? Would you like the instructions for building your own variable rapid-fire joystick or a 246-grayscale SCSI interface for your Amiga? Do you use easy routines for performing floppy access without the aid of the operating system? How much do you really understand about ray tracing?

**The answers to these questions and others
can be found in
AMAZING COMPUTING and AC's TECH.**



Chapters Summary. While the Index allows direct, fast access to the desired item, the user may also choose to start a chapter on a particular subject and listen to the audiovisual part, before going further to more detailed informations.

Hypertext and links with other chapters and paragraphs make information retrieval very easy and fast, especially compared to other CD-based titles. It is also compatible with CDTV and the A570. Currently it is only available in PAL with language support for English, French, German, Italian, and Spanish.

Scientific Atlases Series - Astronomy

Reach out for the stars. Look into the planetarium and choose whichever constellation you wish to see. This disc illustrates, some of the most fascinating secrets of the universe: quarks, black holes, eclipses, the sidereal time, and much more. Packed with thousands of pictures from NASA archives, "Astronomy" will tell you about the amazing adventure of Man into space, from the pioneering days of Laika to the Space Shuttle. Built on the same engine of all the other Scientific Atlases, this title is also compatible with CDTV and the A570. It will be available the first quarter of 1994 in NTSC and PAL with language support for English, French, German, Italian, and Spanish.

Scientific Atlases Series - Human Evolution

From Australopithecus Afarensis to Homo Sapiens, Human Evolution promises an amazing tour throughout the history of mankind. Discover how the first hominides lived, what they ate, and how they evolved into the nowadays human being. As if you were the archaeologist visiting the most important sites in the world, from Laetoli to Hadar, to the Rift Valley, you will learn various methods for research, meet famous colleagues, understand different civilizations coming from environmental factors such as those found in the savannah and the rain forest, and so on. A surprising morphing effect will show you how many changes have taken place since the early days of our ancestors. It is also compatible with CDTV and the A570. It will be available the first quarter of 1994 in NTSC and PAL with language support for English, French, German, Italian, and Spanish.

Scientific Atlases Series - Physics

The fourth title from the Scientific Atlases Series is a complete set of experiments and drills to lead you through the major topics of this fascinating matter, from Galileo to Newton to Bohr. Developers have promised that Physics is not a simple collection of notions and data. Interactive experiments promises

to be a new, unique feature of this CD. The user will have the opportunity to verify by himself many aspects of modern physics such as motion, acceleration, pressure, and so on. Complete profiles of the main protagonists of this science through the centuries are available as audiovisuals, adding an historical reference to the various discoveries. It is also compatible with CDTV and the A570. It will be available the second quarter of 1994 in NTSC and PAL with language support for English, French, German, Italian, and Spanish.

Florence: the Arts, the History, the Mysteries

An unusual way of illustrating one of the most beautiful cities in the world. Instead of a mere catalogue of masterpieces, this title lets you discover not only the arts but also life in Florence from 1000 B.C. through the Etruscans, the Middle Age, the Renaissance, to the present. You can travel using the "Time Machine," or you can navigate through established architectural and artistic "paths," as well as plan your own itinerary. Perhaps, you may want to take a close look at the Mysteries and discover the most secret places of the city through many intriguing stories. Of course a complete reference is available at any time, and you can jump from the paths to the Time Machine section, thanks to

Free with CD³²

The first CD³² units in North America will come with two free games. Canadian early adaptors received a coupon to send to Commodore and receive their games by return mail. Truth is, CD³² landed in Canada before the games were finished at duplication, but everyone believes the games will be available shortly.

Pinball Fantasies CD³² from 21st Century has been reworked into the CD³² format. The game has the playability of the best-

selling Amiga version, with the four varied tables: Partyland - ride the rides and keep your lunch down; Billion Dollar Game Show - with your Host with the most Keith McTeeth; Speed Devils - take the flag first and become world champion; Stones and Bones - it's a scream. 21st Century promises that now it is even closer to the real thing.

The conversion was performed by Digital Illusions and features four times more colors, making full use of the AGA chip set

and studio recorded CD-quality music to make the game come alive. Early demonstration software for this game is very exciting with realistic flippers and ball control.

In *Sleep Walker* by Ocean you must keep your sleepwalking master—your his faithful dog—from getting lost. Your goal is to push and kick the oblivious, ever-moving sleeper up a series of rooftops and back through his bedroom window.

Four Fantasies
Pinball Fantasies is one of the two games Commodore will be bundling with each CD³² sold in North America.



hypertextual links. It is also compatible with CDTV and the A570. It will be available the first quarter of 1994 in NTSC and PAL with language support for English, French, German, Italian, and Spanish.

Cult Game Series - Pinocchio

Carlo Collodi, the original writer of *Pinocchio*, published his world famous book in 1881, while working for GIUNTI in Florence. After 12 million copies were sold by his original publisher—and 480 million copies distributed by others—Collodi returns to us, “going beyond the printed page.” A skillful electronic transposition of the original fairy tale, *Pinocchio* is divided into two main parts: the first is the story, an enchanting audiovisual book lasting for more than two hours with audio, still pictures, and animation; the second option is the Game, where Pinocchio must save his father, swallowed by a whale and trapped in its stomach. The game is made up of many different situations requiring different skills. Ideal for children up to the age of 12, *Pinocchio* can well be defined a Cult Game destined for success. Available now in NTSC or PAL with language support for English, German, Italian, Spanish, and Portuguese.

Cult Game Series - Athens and Sparta

Discover Greek civilization without being compelled to read a boring history book. This is the aim of the authors of this title who avoided the usual paging of an “interactive multimedia book,” choosing instead the implementation of a graphic strategic/adventure game, where the user can act as a real protagonist making decisions and being really “active.” The title introduced information of various kinds about history, culture, and everyday life of classical Greece in the 6–9 centuries B.C. through a game whose final goal is to conquer the “polis.” To do that, the player must wear the clothes of a warrior of that time, and further on taking care of the administration of the conquered lands. But that’s not enough to win. Each “polis” jealously keeps the secret knowledge of a particular subject—that he will further need to pursue his objectives—expressed by multimedia techniques. By learning these secrets, the player understands more and more about ancient Greece each time a different game. It is also compatible with CDTV and the A570. It will be available the fourth quarter of 1994 in NTSC and PAL with language support for English, French, German, Italian, and Spanish.

•AC•

CD³² Software On The Way!!

Commodore has announced several titles are currently in production for early release. The following is a list of some of the vendors and the titles they will have available for CD³² in Europe. Watch these pages for reviews of these new titles as they become available.

Audiogenic Software Ltd.	MicroValue Flair (continued)
Bubble & Squeak	Winter Super Sports
Exile	Millenium
Bullfrog	Diggers
Syndicate	James Pond 2 (RoboCod)
Domark	Morph
Trivial Pursuit	Mindscape
Electronic Arts	Alfred Chicken
Labyrinth	Degeneration
Extender	Fury of the Furries
Super Methane Brothers	Liberation (AGA)
Gametek (UK) Ltd.	Overkill/Luna-C (AGA)
Humans 1 & 2	Multimedia Machine
Grandslam	50 Karaoke Hits
Beavers (AGA)	Now That's What I Call Games
Chambers of Shaolin	Now That's What I Call Games 2
Hunt for Red October	New Media
Liverpool Football	Guinness II
Nick Faldo's Golf	Ocean
Seven Gates of Jambala (AGA)	Jurassic Park
Gremlin Graphics	Ryder Cup Golf
K240 (AGA)	Sleepwalker
Legend of Sorasil (AGA)	Optonica
Little Devil	Insight Technology
Lotus Turbo Trilogy	Playsoft CBM
Utopia II	Amiga American Football
Zool (AGA)	Psygnosis Ltd.
Zool II	Microcosm
Images	Renegade
Shadows of the Wind	Chaos Engine (AGA)
Interplay	Sensible Soccer (AGA)
Castles II	Turrican III (AGA)
Lord of the Rings II	Uridium II (AGA)
International Computer Entertainment Ltd.	Sachs
50 Game Compendium (with dongle)	Defender of the Crown II
Deep Core	Software Inspiration
Guli	Ceaser Deluxe/Cohort II (AGA)
Mean Arenas	SuperVision Int. Ltd.
Total Carnage	Donk - Special Edition
Krisalis Arabian Nights (AGA)	System 3
The Break	International Karate Plus (AGA)
Traps & Treasures	Myth (AGA)
Microprose	Ninja III (AGA)
Pirate Gold	Super Putty (AGA)
MicroValue Flair	Team 17
Dangerous Streets (AGA)	Alien Breed-Special Edition
Golden Collection	Assassin Special Edition
Oscar	F17 Challenge
Reach Out For Gold	Project X
Surf Ninjas	Qwak
Trolls	Xiphias
Whale's Voyage	Grolier's Encyclopedia

Where's Fred?

The Fred Fish Collection was not presented this issue because no new disks have been released since our last issue. Fred Fish is currently developing his collection on CD-ROM as well as on floppies. He has promised to continue his

collection to disk number 1000. At that time AC has made arrangements with Mr. Fish to continue distributing the new portion of his collection on floppy disk while he creates additional CD-ROM collections.

The Fred Fish catalog will reappear in our next issue with the latest released disks.

For a complete catalog of programs available in the Fred Fish Collection, please refer to *AC's GUIDE To The Commodore Amiga Winter '94* on sale now at your local dealer or bookstore. *AC's GUIDE* is also available as part of an AC's SuperSub. To order, dial 1-800-345-3360.

CD³² Has Landed

CD³² is here. Well almost. At press time, Commodore USA is not commenting on how many units will be available for sale this month. Corporate executives are preparing for their introduction of CD³² at the Winter Consumer Electronics show to be held in Las Vegas January 6-10 and they are being very tight lipped until after the event.

In the meantime, sales of CD³² have been extraordinary in Europe. It is the leading CD platform in sales in the U.K. and software developers are quickly porting product to the new platform. AC is launching a CD³² column to review that software and be certain that the new products conform to standards all CD³² users should expect.

What standards? First, no CD³² title should ever mention a keyboard. Game developers should take the time to adjust the software to be CD³²-specific, eliminating any references to their standard Amiga or PC versions.

Second, it should take advantage of the features available to CD³²—music, graphics, etc. Granted, designers may want their new software to be compatible with CDTV, and this is fine. What we do not accept are games that have been shuffled over from other platforms without any care taken to clean up their graphics, improve their sound, or speed up the game play. If it says CD³², it should be CD³².

A further lists of gripes, likes, and the other will be available in the next issue. If you have suggestions, questions, or comments, write in care of this column. This is your way to know the latest developments on what CD³² is doing.

For now, we have gathered descriptions from a few new games to be released by Commodore (that's right, Commodore) and by the Italian developer Giunti Multimedia. In addition, we have listed the titles CBM expects to see in the next few months and we have a scoop on the new games which CBM plans to give free with brand new CD³² units.

Commodore Publishing

Although Commodore has not financed the development of third-party software, they have licensed and created a few titles of their own. Even though some of these titles were under development for CDTV, all have been updated for the new features in CD³². The following five titles are in duplication at press time and should be available by the time you read this.

Defender of the Crown

The nation is in turmoil following the death of England's ruler, King Richard. To save their beloved country, the bold Saxon knights clash against the evil forces of the plundering Normans. Only the strongest, most skillful knight can overcome the obstacles and win the crown to become King of England. *Defender of the Crown* (\$39.99) is an interactive tale of brave knights whose days are filled with daring jousts, breathtaking sword fights, beautiful damsels in distress, and enemy castle sieges. Available January 10, 1994.

Grolier Electronic Encyclopedia

All 21 volumes of the Academic American Encyclopedia on a single Amiga CD³² disc. The Amiga CD³² multimedia version contains over 2000 full-color photographs, maps, and illustrations. This product retails for \$199.99 and is available January 10, 1994.

Amiga CD³² Football

An interactive football game for Commodore's Amiga CD³². The user controls all aspects of game play by selecting teams, substituting players, and executing plays from the extensive Amiga CD³² playbook. Three levels of play allow the user to choose his level of interaction



Defender of the Crown is just one of the titles Commodore Publishing will release in the new CD³² format.

including observer (Commissioner mode), play calling only (Coach mode), and active participant (Arcade mode). The title uses Commodore's CDXL video which heightens the user's experience. Motion video segments include: Pre-game discussion from the sports desk, half-time discussions, post-game interviews, as well as instructions from the assistant coach. The game itself includes a referee who makes calls via a video inset (picture in a picture). Amiga CD³² Football retails for \$44.99 and is available January 10, 1994.

Guinness Disk of Records - 2nd Edition

The Guinness Disk of Records is a multimedia version of the well-known book and retails for \$54.99. This new edition, available January 10, 1994, includes graphics created in the AGA chip set resolution, a new Finder Index, audio/video guided tours, and a Main Index allowing alphabetic searches of the records.

Insight: Technology

Insight: Technology (\$49.99) is a fascinating reference disc that reveals the secrets of how things work through words, pictures, and video. Containing over 250 topics and 2000 keywords, the user can view and explore the secrets behind many of today's advanced technologies. The title uses Commodore's CDXL video. Motion video segments highlight many of the topics and 700 photographs are contained in sight and sound slide shows. Full-screen animations demonstrate in detail the inner workings of many of today's technical marvels. *Insight: Technology* has a release date of January 10, 1994.

Giunti Multimedia

Giunti Multimedia has promised a large variety of software in multiple languages for the entire world. Giunti began with titles for CDTV, but maintains that their programs will also work on CD³². The advanced material on their latest effort, *Pinocchio*, is very exciting. The art and story are different from the mainline games we usually see.

Scientific Atlases Series - The Human Body

A complete reference title on the subject of human anatomy, with animations, videos, pictures, speech and written text. Navigation is accomplished in two major ways: the Analytical Index and the

(continued on page 94)

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AC#4 ...Source & Listings V4.7 & V4.8

AC#6 ...Source & Listings V4.10 & V4.11

AC#8 ...Source & Listings V5.2 & 5.3

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O 7. Amiga 4000

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O 35. \$251-\$500 O 39. \$2001-\$4000
O 36. \$501-\$1000 O 40. over \$4000
O 37. \$1001-\$1500

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O 52. other _____

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O 55. scan through pages and read items of interest only
O 56. check table of contents and maybe read 1-2 articles
O 57. read my favorite column(s) only
O 58. read very little of it

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O 60. yes—two or more times O 62. no—not interested.
O 63. yes—I subscribe.

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O 59. yes—but only once O 61. no—but plan to soon.
O 60. yes—two or more times O 62. no—not interested.
O 63. no—use my dealer's copy.

AC March 1994 valid until 4/30/94
see page 80 for reference numbers

101	102	103	104	105	221	222	223	224	225
106	107	108	109	110	226	227	228	229	230
111	112	113	114	115	231	232	233	234	235
116	117	118	119	120	236	237	238	239	240
121	122	123	124	125	241	242	243	244	245
126	127	128	129	130	246	247	248	249	250
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136	137	138	139	140	256	257	258	259	260
141	142	143	144	145	261	262	263	264	265
146	147	148	149	150	266	267	268	269	270
151	152	153	154	155	271	272	273	274	275
156	157	158	159	160	276	277	278	279	280
161	162	163	164	165	281	282	283	284	285
166	167	168	169	170	286	287	288	289	290
171	172	173	174	175	291	292	293	294	295
176	177	178	179	180	296	297	298	299	300
181	182	183	184	185	301	302	303	304	305
186	187	188	189	190	306	307	308	309	310
191	192	193	194	195	311	312	313	314	315
196	197	198	199	200	316	317	318	319	320
201	202	203	204	205	321	322	323	324	325
206	207	208	209	210	326	327	328	329	330
211	212	213	214	215	331	332	333	334	335
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O 35. \$251-\$500 O 39. \$2001-\$4000
O 36. \$501-\$1000 O 40. over \$4000
O 37. \$1001-\$1500

F. Where do you buy Amiga products?
O 41. local Amiga Dealer O 43. manufacturer
O 42. discount department store O 44. mail order

G. How many times have you purchased an Amiga product after seeing it in AC?
O 45. frequently O 47. once
O 46. occasionally O 48. never

H. How did you obtain your copy of AC?
O 49. subscribe (how long? _____ years)
O 50. buy at local Amiga dealer
O 51. buy at bookstore/newsstand/software store

I. How many others not including yourself usually see or read your issue of AC each month?
O 52. other _____

J. How do you read AC each month? (please check one):
O 53. _____ others, in addition to myself
O 54. read virtually everything, cover-to-cover
O 55. scan through pages and read items of interest only
O 56. check table of contents and maybe read 1-2 articles
O 57. read my favorite column(s) only
O 58. read very little of it

K. Have you ever purchased a copy of AC's GUIDE?
O 59. yes—but only once O 61. no—but plan to soon.
O 60. yes—two or more times O 62. no—not interested.
O 63. yes—I subscribe.

L. Have you ever purchased a copy or subscribed to AC's TECH?
O 59. yes—but only once O 61. no—but plan to soon.
O 60. yes—two or more times O 62. no—not interested.
O 63. no—use my dealer's copy.

AC March 1994 valid until 4/30/94
see page 80 for reference numbers

101	102	103	104	105	221	222	223	224	225
106	107	108	109	110	226	227	228	229	230
111	112	113	114	115	231	232	233	234	235
116	117	118	119	120	236	237	238	239	240
121	122	123	124	125	241	242	243	244	245
126	127	128	129	130	246	247	248	249	250
131	132	133	134	135	251	252	253	254	255
136	137	138	139	140	256	257	258	259	260
141	142	143	144	145	261	262	263	264	265
146	147	148	149	150	266	267	268	269	270
151	152	153	154	155	271	272	273	274	275
156	157	158	159	160	276	277	278	279	280
161	162	163	164	165	281	282	283	284	285
166	167	168	169	170	286	287	288	289	290
171	172	173	174	175	291	292	293	294	295
176	177	178	179	180	296	297	298	299	300
181	182	183	184	185	301	302	303	304	305
186	187	188	189	190	306	307	308	309	310
191	192	193	194	195	311	312	313	314	315
196	197	198	199	200	316	317	318	319	320
201	202	203	204	205	321	322	323	324	325
206	207	208	209	210	326	327	328	329	330
211	212	213	214	215	331	332	333	334	335
216	217	218	219	220	336	337	338	339	340

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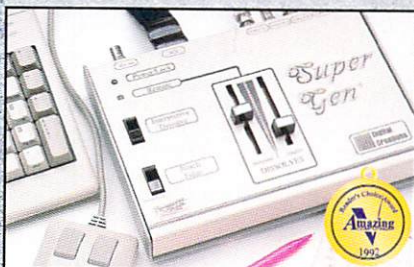
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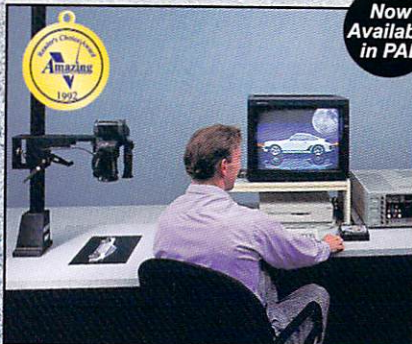
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